

DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT RENEWAL OF THE B-20 LAND WITHDRAWAL NAVAL AIR STATION FALLON, NEVADA



June 1998



Department of the Navy
Naval Air Station Fallon
Fallon, Nevada

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**Draft Legislative Environmental Impact Statement (LEIS)
for the Renewal of the B-20 Land Withdrawal at
Naval Air Station (NAS) Fallon, Nevada**

Lead Agency: US Department of the Navy
Title of Proposed Action: Draft Legislative Environmental Impact Statement for the Renewal of the B-20 Land Withdrawal at NAS Fallon, Nevada
Affected Jurisdictions: City of Fallon and Churchill County, Nevada
Designation: Draft Legislative Environmental Impact Statement

ABSTRACT

In November of 1986, Congress passed the Military Lands Withdrawal Act of 1986 (Public Law [PL] 99-606), which withdrew public lands in Nevada, New Mexico, Arizona, and Alaska for the Departments of the Navy, Air Force, and Army (Section 1). Under this legislation, approximately 21,576 acres of land in a checkerboard pattern were identified for Navy use in Churchill County, Nevada, to support NAS Fallon's Bravo-20 (B-20) training range (Section 1[a]). These withdrawn lands, together with 19,430 acres of land in a checkerboard pattern acquired from the Southern Pacific Railroad Company, form the B-20 training range. PL 99-606 withdrew no other lands for administration by NAS Fallon. The Navy proposes to renew the lands withdrawn at B-20 under PL 99-606. The proposed action would not result in increases in aircraft operations. As directed by Section 8 of PL 99-606, only lands included in Section 1 of PL 99-606 can be renewed or relinquished under the provisions of this act.

Under the Preferred Alternative evaluated in this LEIS, the Navy would apply for a renewal of the withdrawal of 21,576 acres at B-20, as required by and outlined in PL 99-606. The Navy would continue to use B-20 for training operations consistent with those currently conducted and as specified in Section 1(a)(2)(A) and (B) of PL 99-606. Under the No Action Alternative, required by the National Environmental Policy Act (NEPA), the Navy would not apply for a renewal of the 21,576 acres of withdrawn land at B-20. The withdrawn lands would be assessed for contamination subject to the requirements of Section 8 of PL 99-606, and Navy ordnance delivery training at B-20 would cease upon expiration of the withdrawal on November 6, 2001. This LEIS analyzes the potential environmental impacts from the Preferred Alternative and the No Action Alternative on land use, biological resources, geology and soils, water resources, cultural resources, environmental justice and socioeconomic, air quality, noise, mineral resources, livestock and wild horse management, recreation and visual resources, public health and safety, and transportation. The LEIS also evaluates the potential cumulative effects of the continued use of other existing and proposed NAS Fallon and other Department of Defense and Department of Energy land withdrawal and airspace actions.

The Preferred Alternative would not result in any significant impacts. The No Action Alternative would result in significant but mitigable impacts to geology and soils and public health and safety.

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LIST OF ACRONYMS

mg/l	milligrams/per liter
μl	micrograms per liter
ACHP	Advisory Council on Historic Preservation
AFAF	Air Force Auxiliary Field
AFB	Air Force Base
AFY	Acre-Feet Per Year
AG/LDR	Agricultural/Low Density Residential
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
AR	Air Refueling Route
ATCAA	Air Traffic Control Assigned Airspace
AUM	Animal Unit Month
BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
BOM	US Bureau of Mines
BP	Before present
BRAC	Base Realignment and Closure
BUREC	Bureau of Reclamation
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNO	Chief of Naval Operations
CO	Carbon Monoxide
CRMP	Cultural Resources Management Plan
CVW	Carrier Air Wing
dB	decibel
dBA	A-weighted decibel
dBC	C-weighted decibel
DNWR	Desert National Wildlife Range
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
EIS	Environmental Impact Statement
EMR	Electromagnetic Radiation
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EW	electronic warfare
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FL	Flight Level
FLPMA	Federal Land Policy Management Act
FRS	Fleet Replacement Squadrons
FRTC	Fallon Range Training Complex
FWS	Fighter Weapons School
FWW	Fighter Weapons Wing
H ₂ S	Hydrogen Sulfide
HMA	Herd Management Area
HWAD	Hawthorne Army Depot
IFR	Instrument Flight Rules

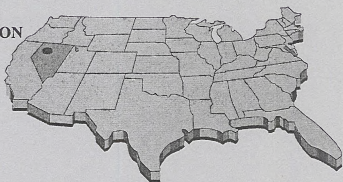
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IWTS	Imaging Weapons Training System
kW	kilowatt
Ldn	Day-Night Average Noise Level
LEIS	Legislative EIS
Leq	Equivalent Noise Level
MCAS	Marine Corps Air Station
MOA	Military Operations Area
MOU	Memorandum of Understanding
MSL	Mean Sea Level
MTR	Military Training Route
NAAS	Naval Auxiliary Air Station
NAFR	Nellis Air Force Range
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station
NATO	North Atlantic Treaty Organization
NBMG	Nevada Bureau of Mines and Geology
NDOW	Nevada Division of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNNPS	Northern Nevada Native Plant Society
NOI	Notice of Intent
NO ₂	Nitrogen Dioxide
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
NSAWC	Naval Strike and Air Warfare Center
NTS	Nevada Test Site
NWI	National Wetlands Inventory
O ₃	Ozone
O&M	Operations and Maintenance
OPNAVINST 5090.1B	Dept. of the Navy Environmental and Natural Resources Program Manual
ORV	Off-Road Vehicle
PA	Programmatic Agreement
Pb	Lead
PL	Public Law
PLO	Public Land Order
PM _{2.5}	Fine Particulate Matter
PM ₁₀	Inhalable Particulate Matter
RAICUZ	Range Air Installation Compatibility Use Zone
R-R	Rural Resources
SAM	Surface-to-Air Missile
SEAL	Sea-Air-Land
SECNAV	Secretary of the Navy
SEL	Single Event Level
SEP	Sweep Effectiveness Probability
SHPO	State Historic Preservation Officer
SO ₂	Sulfur Dioxide
SO _x	Sulfur Oxides
SUA	Special Use Airspace
T&E	Test and Evaluation
TAC	Tactical Air Command

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TACTS	Tactical Aircrew Combat Training System
TCID	Truckee-Carson Irrigation District
TDS	Total Dissolved Solids
TFWS	Tactical Fighter Weapons Center
TIS	Tracking Instrumentation Subsystem
Top Dome	Carrier Airborne Early Warning Weapons School
TOPGUN	Naval Fighter Weapons School
TTR	Tonopah Test Range
UP	Union Pacific
US	United States
USC	United States Code
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VFR	Visual Flight Rules
VORTAC	Very High-frequency Omni-directional Radio Range Tactical Aid-to-navigation
VRM	Visual Resource Management
WISS	Weapons Impact Scoring System
WHSRN	Western Hemispheric Shorebird Reserve Network
WSA	Wilderness Study Area

NAS
FALLON



EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

INTRODUCTION

In November of 1986, Congress passed the Military Lands Withdrawal Act of 1986 (Public Law [PL] 99-606), which withdrew public lands in Nevada, New Mexico, Arizona, and Alaska for the Departments of the Navy, Air Force, and Army (Section 1). Under this legislation, the Navy withdrew approximately 21,576 acres of land in a checkerboard pattern for Navy use in Churchill County, Nevada, to support Naval Air Station (NAS) Fallon's Bravo-20 (B-20) training range (Section 1[a]). These withdrawn lands, together with 19,430 acres of land in a checkerboard pattern acquired from the Southern Pacific Railroad Company, form the B-20 training range. PL 99-606 withdrew no other NAS Fallon-administered lands. As directed by Section 8 of PL 99-606, only lands included in Section 1 of the act can be renewed or relinquished under the provisions of this act.

Section 5(a) and (b)(1) of PL 99-606 provides: "the withdrawal and reservation established by the Act will terminate 15 years after the date of enactment of the Act. No later than 12 years after the date of enactment of PL 99-606 [November 6, 1998], the Secretary [of the Navy] shall publish a draft environmental impact statement (EIS) consistent with the requirements of the National Environmental Policy Act of 1969 (NEPA) concerning continued or renewed withdrawal of any portions of the lands withdrawn by this act for which the Secretary intends to seek such continued or renewed withdrawal."

The Navy proposes to renew the lands at B-20 withdrawn under PL 99-606. The other land withdrawals at NAS Fallon discussed in this document do not require renewal under this action. Because the proposed action results from past legislation, this document is a Legislative EIS (LEIS). NEPA requires that proposals for legislation significantly affecting the quality of the human environment be integrated with the legislative process of Congress. An LEIS is the

detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress. The statement must be available in time for Congressional hearings and deliberations (40 Code of Federal Regulations [CFR] 1506.8[a]).

The proposed action of this LEIS, evaluated in Chapters 1 through 4, is the renewal of withdrawn lands at the B-20 training range. The purpose for the renewal of withdrawn lands at B-20 is to continue to provide training areas at B-20 in support of NAS Fallon's national security-mandated mission. B-20 is an indispensable and unique component of the Fallon Range Training Complex (FRTC) in that it is the only training range that is remote, has room for growth on the range, and allows for delivery of 2,000-pound live ordnance. The proposed action would not result in increases in aircraft operations.

For purposes of NEPA analysis and this Draft LEIS, the term "lands withdrawn by this Act" must include lands withdrawn by NAS Fallon in Public Land Orders (PLOs) 275, 788, 898, and 2635, and lands proposed for withdrawal in the EIS for the Withdrawal of Public Lands for Range Safety and Training Purposes. This EIS, formerly known as the Master Land Withdrawal EIS and referred to in this document as the Range Safety and Training Public Land Withdrawal EIS, was released in draft form for public review in July 1997 (PL 99-606, Section 5[b][2][A]). These other lands, as well as lands withdrawn under PLO 6834, are described in Chapter 5, Other NAS Fallon Lands, and evaluated in Chapter 6, Cumulative Impacts. Though not subject to renewal, the continuing need for these lands is discussed in Chapter 1.

This Draft LEIS fulfills the Navy's requirements under PL 99-606. The LEIS has been prepared in accordance with the Military Lands Withdrawal Act of 1986, NEPA, the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR Parts 1500-1508), and the Navy's Environmental and Natural Resources Program Manual (32 CFR 775; OPNAVINST 5090.1B). The Navy is the lead agency for the proposed action. The Navy requested that the Bureau of Land Management (BLM) be a cooperating agency.

LOCATION OF NAS FALLON

NAS Fallon is in the Lahontan Valley of Churchill County in west-central Nevada, approximately 70 miles east of Reno and six miles southeast of the City of Fallon. The Dead Camel Mountains and Shekler Reservoir are west of NAS Fallon, and the Carson River lies to the northwest. The Fallon Paiute-Shoshone Indian Reservation and the Stillwater National Wildlife Refuge are northeast of NAS Fallon, the Stillwater Mountain Range is east, and Carson Lake is south. In addition to the air station, NAS Fallon includes four geographically separate training ranges—Bravo-16 (B-16), Bravo-17 (B-17), Bravo-19 (B-19), and B-20. The B-16 training range is in the southwestern portion of the Carson Desert, east of the Dead Camel Mountains and approximately five miles southwest of NAS Fallon. The B-17 training range is

in the central Fairview Valley, approximately 35 miles southeast of NAS Fallon. The B-19 training range is west of the Blow Sand Mountains and 15 miles south of NAS Fallon, adjacent to the northern border of the Walker River Indian Reservation. The B-20 training range is in the Carson Sink, approximately 18 miles east of Alternate Highway 95 and seven miles north of the Stillwater National Wildlife Refuge.

PROPOSED ACTION

The Navy proposes to file an application for renewal of the 21,576 acres of land withdrawn at the B-20 training range pursuant to the Military Lands Withdrawal Act of 1986 (Section 1[a]). The act authorized the reservation of the withdrawn land for use by the Navy for testing and aerial bombing, missile firing, and tactical maneuvering and air support (Section 1[a]2[A]), and for other defense-related purposes subject to those requirements indicated in Section 3(f) of the act (Section 1[a]2[B]). The Navy proposes to renew the withdrawal for continued use, as stated in PL 99-606. Implementation of the proposed action would not result in the withdrawal of additional lands, nor would it establish additional public use restrictions.

PURPOSE AND NEED

Preparation of this document has been mandated by the Military Lands Withdrawal Act of 1986. The purpose of the proposed action, the renewal of withdrawn lands at B-20, is to continue to provide training areas at B-20 in support of NAS Fallon's national security-mandated mission. B-20 is indispensable to the Navy training mission and is a unique component of the NAS Fallon range training complex in that it is the only training range that is remote, has room for growth on range, and allows for use of 2,000-pound live ordnance. Any future development on B-20 would be subject to appropriate NEPA documentation. In addition, existing withdrawn lands at B-20 consolidate administration of land management patterns to provide for public safety from training operations. While the purpose of the proposed action relates only to the renewal of withdrawn lands at B-20, and only B-20 lands are subject to renewal, the purpose of the LEIS also is to demonstrate a continuing need for other NAS Fallon withdrawn lands.

The Navy's need to renew withdrawn lands at B-20 and to continue to use other NAS Fallon withdrawn lands is a function of the tactical and training needs of NAS Fallon resulting from its national security-mandated mission, the strategic location and established resources of the FRTC, and public safety. In addition, NAS Fallon is an ideal training facility in that the airspace generally overlies a sparsely populated area and the training ranges are in close proximity to the air station. The need for the renewal of B-20 withdrawn lands and continued use of other NAS Fallon withdrawn lands is described below.

Tactical and Training Needs

The availability of airspace over a sparsely populated area and the proximity of the training ranges to the air station make NAS Fallon an ideal, highly cost-effective training facility that must be maintained. NAS Fallon is the primary provider of integrated combat tactical training and large force deployment for Naval units. NAS Fallon, along with the FRTC, is the only Naval air station capable of providing lodging, support, and integrated combat training for an entire carrier air wing (CVW). The Navy requires all CVWs to train at NAS Fallon for four weeks as a prerequisite to deployment aboard aircraft carriers or on overseas stations, highlighting the strategic importance of NAS Fallon. During CVW training, which occurs four to six times per year, CVWs routinely require exclusive use of commodore airspace, the portion of the FRTC covered by the tactical aircrew combat training system (TACTS) that overlies B-17, B-19, and B-20. During air wing training, these three training ranges are unavailable for other training. Loss of one or more training range within commodore airspace would limit training complexity and could prohibit some mission-required air wing training events.

In addition to providing training for CVWs, NAS Fallon is homeport to a fleet replacement squadron (FRS) detachment and host to other Naval and Department of Defense (DOD) services training. FRS units or other activities desiring use of a training range are scheduled for B-16, which is outside the TACTS tracking area and commodore airspace. This separate airspace allows training to occur independently and concurrently at B-16 while advanced training is occurring at B-20 and within the rest of the commodore airspace. B-16 is used daily under current operating conditions by FRS units and other DOD services for basic and intermediate air-to-ground training.

Training range utilization for 1994 was presented in the proposed Range Safety and Training Public Land Withdrawal EIS. Range utilization for B-16 was approximately 70 percent, while range utilization was 88 percent for B-17, 84 percent for B-19, and 82 percent for B-20 (US Navy 1997c). Range utilization rates are determined by the number of hours used at each training range divided by the total hours available at the training ranges. Available hours are based on time of day (most operations are conducted during the eight-hour work day), training range maintenance schedules, and closure schedules for the training ranges. Weather also is a factor of training range availability. Because of these variables, a training range is not available 100 percent of the time. The annual average does not highlight variances in use, such as when both CVW and FRS training activities are being conducted. During these times, demand for use of the training ranges often exceeds training range availability. Loss of one training range would increase the amount of training that must be accomplished at the other training ranges. However, the other training ranges are used to such an extent that increasing operations to fully compensate for the loss would not be possible.

The number of sorties associated with the training ranges has increased approximately eight percent since 1994; in 1997, 33,802 sorties were flown at the training ranges (US Navy 1997c). This increase in sorties is largely attributable to the realignment of the TOPGUN mission to NAS Fallon. A sortie is a take-off and landing and can include up to 12 ordnance deliveries. Efficient training per sortie at NAS Fallon is attributable to the proximity of the training ranges to the air station and to each other.

The strategic importance of NAS Fallon has been further defined under the Defense Base Closure and Realignment Act of 1990 (PL 101-510), commonly referred to as BRAC. Base closure decisions have resulted in the realignment of training missions to facilities, such as NAS Fallon, to reduce and consolidate military holdings. This has made NAS Fallon and the FRTC more strategically important for the combat readiness of the Navy. The realignment of TOPGUN and Top Dome to NAS Fallon are examples of BRAC actions and demonstrate the long-term commitment of the Navy to NAS Fallon and its tactical importance to the combat readiness of the military. Loss of the B-20 training range or loss of the continued use of all other NAS Fallon lands would limit the ability of NAS Fallon to meet additional training requirements resulting from BRAC.

Need for Renewal of Withdrawn Lands at B-20. The B-20 training range is both an integral component of the FRTC and a unique training area. As discussed above, B-20 is one of the three training ranges used for air wing training events. These events simultaneously utilize B-17, B-19, and B-20 and the associated commodore airspace. This training, which can only be accommodated at NAS Fallon, would be impacted or prohibited with the loss of withdrawn lands at the B-20 training range. In addition, loss of B-20 would increase training requirements at the other NAS Fallon ranges. B-17 and B-19 are utilized to such an extent that increasing training at these ranges likely could not compensate for the loss of B-20. In addition, these training ranges are not able to accommodate all types of training that is performed at B-20.

B-20 is unique in its size and the remoteness of its location. The size of B-20, including both withdrawn and acquired lands, allows for growth on the range. Any future development would be subject to appropriate NEPA documentation. The remoteness of B-20 allows for training that cannot occur in more populated areas because of noise or safety concerns. For instance, B-20 is the only range authorized for 2,000-pound live ordnance training. This type of training is critical because the delivery of this type of live ordnance cannot be simulated; aircraft behave differently when carrying larger weapons and deploying live ordnance. Since the 2,000-pound live ordnance training is not conducted at any other NAS Fallon training range, the loss of B-20 would adversely affect NAS Fallon's ability to conduct this training. In addition, the remoteness of B-20 has allowed for the realignment of 12 military training routes from the B-16 training range to B-20 to alleviate noise concerns around B-16. The loss of B-20 would result in the need for

these military training routes to be realigned back to B-16, which would increase noise over an area that is sensitive to noise. Table ES-1 details the training uses on and the need for the renewal of withdrawn lands at B-20.

Table ES-1
Need for B-20 Withdrawn Lands at NAS Fallon

Land	Use	Need
B-20	Strafing, air-to-ground delivery of practice/inert and live ordnance, and laser ranging and targeting	<ul style="list-style-type: none"> Provides area for CVW training, which is conducted only at NAS Fallon; CVW training uses training ranges B-17, B-19, and B-20 and associated commodore airspace Provides area for integrated training for various airborne military services Only training range authorized for 2,000-pound live ordnance drops; remoteness allows for such training Covers 21,576 acres (withdrawn portion) and is necessary to meet range training space requirements while ensuring public safety Size allows room for growth on range Situated in a unique desert environment Relieves some of the aircraft activity previously scheduled at B-16, a more populated and noise-sensitive area

Need for Continued Use of Other Existing NAS Fallon Lands. Other existing NAS Fallon training ranges provide target areas for air-to-ground live or practice/inert ordnance delivery training. The air station provides the aircraft runway system, aircraft maintenance and support facilities, personnel housing and support facilities, and administration facilities in support of Naval training at NAS Fallon. As discussed above, B-17 and B-19 are two of the three training ranges used for the air wing training events that simultaneously utilize B-17, B-19, and B-20 and the associated commodore airspace. In addition, B-17 and the electronic warfare (EW) threat environment provide areas for advanced strategic combat training.

The B-16 training range is the only training range with airspace outside of commodore airspace. During air wing events, B-16 provides the only available airspace for training to occur independently and concurrently while advanced training is occurring at B-20 and the rest of the FRTC. B-16 is used daily under current operating conditions by fleet replacement squadrons and other DOD services for basic and intermediate air-to-ground training. B-16 is the training range closest to the air station and requires the least travel time and fuel consumption of all the training ranges. Table ES-2 details the uses of and the continued need for the other lands at NAS Fallon.

Need for Other Proposed NAS Fallon Lands. The purpose and need for the Range Safety and Training Public Land Withdrawal are detailed in the Draft EIS released for public review in July 1997 (US Navy 1997c). The Navy needs the lands proposed for withdrawal to maintain and improve realistic operational and strategic combat training at NAS Fallon while providing safety zones around the existing training ranges. The proposed withdrawal lands would provide the land area necessary for the placement of EW and TACTS sites, which allow for simulation of enemy threat environments, counterattacks, and complex targeting scenarios, and the use of portable visual cueing devices. The proposed withdrawal lands also would provide area for the ground training component of integrated air and ground training, including combat search and rescue, Sea-Air-Land (SEAL) unit training, noncombatant evacuation training, and desert rescue training. The FRTC is the only tactical training range complex where the combat search and rescue mission is conducted. In addition, the Navy recently integrated combat search and rescue and intelligence training with North Atlantic Treaty Organization (NATO) allies. The amount of ground training integrated with aircraft support is expected to continue at NAS Fallon, thereby requiring suitable areas for quality training.

Strategic Location and Established Resources

NAS Fallon has the facilities, airspace, equipment, and training ranges, including impact areas, necessary to conduct integrated strategic training for naval forces. In addition, the remoteness of the air station and training ranges from developed and sparsely habited land allows NAS Fallon to accommodate CVWs, FRS detachments, and visiting Navy, Air Force, Marine, Army and NATO allies' units. The training ranges of the FRTC are set up to simulate contingency operations typical of Navy and other military force missions. All of the training ranges are within 35 air miles of NAS Fallon. This allows for integrated range training, promotes fuel efficiency, increases the lifespan of airframes, and reduces travel time risks. In short, proximity of the training ranges minimizes operational costs and maximizes training time, thereby allowing pilots to fly more training missions during their stay at NAS Fallon.

Public Safety Needs

In addition to the tactical military requirements, the continued use of the withdrawn lands is necessary for safety purposes. The primary safety concern addressed by the renewal of withdrawn lands at B-20 is protecting the public from existing unexploded ordnance and from potential unexploded ordnance, as defined by the HAZARD Analysis Mitigation Report (US Navy 1995g). The primary safety concern addressed by the continued use of other NAS Fallon lands is also existing and potential unexploded ordnance.

Table ES-2
Need for Continued Use of Other NAS Fallon Lands

Land	Use	Need
NAS Fallon	Airfield, support and housing facilities, and hazard reduction	<ul style="list-style-type: none"> • Airfield and housing are necessary to continue NAS Fallon training mission
B-16	Basic and intermediate air-to-ground delivery of practice/inert bombs and rockets	<ul style="list-style-type: none"> • Closest training range to the air station; allows for minimal travel time • Only training area with exclusive airspace outside commodore airspace • Only training range available for FRS and visiting squadron training during CVW training, which allows NAS Fallon to meet training requirements in the face of limited training range availability • Provides area for integrated training for various airborne military services • Covers 17,280 acres (27,680 upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
B-17	Strafing, air-to-ground delivery of practice/inert and live ordnance and rockets, close air support, artillery spotting, mortar strikes, small arms training, and no-drop bomb scoring	<ul style="list-style-type: none"> • Only training range available to pilots flying through the Dixie Valley EW area, which simulates surface-to-air missile attacks • Advanced strategic combat training is conducted in the EW environment and at B-17 • Provides area for CVW training, which is only conducted at NAS Fallon • Provides area for integrated training for various airborne military services • Covers 21,400 acres (54,800 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
B-19	Strafing, air-to-ground delivery of practice/inert and live ordnance and rockets, close air support, artillery spotting, mortar strikes, small arms training, and laser ranging and targeting	<ul style="list-style-type: none"> • Provides area for CVW training, which is only conducted at NAS Fallon • Provides area for integrated training for various airborne military services • Covers 17,332 acres (29,532 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
Shoal Site	Combat search and rescue training	<ul style="list-style-type: none"> • Will provide area for combat search and rescue training; necessary for realistic combat training (will cover 2,765 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS)
Dixie Valley	Contains electronic warfare (EW) sites	<ul style="list-style-type: none"> • The EW system simulates enemy radar detection systems and radar missile sites, creating a simulated warfare threat environment • Will provide area for additional EW and TACTs site, visual cueing devices, and ground training integrated with air operations (will cover 68,600 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS)

Unexploded Ordnance

B-20. The B-20 training range has been in use for over 50 years, supporting a variety of training activities, including air-to-ground bombing and strafing. While the Navy now conducts sweeps of training ranges at least three times per year, approximately 10 percent of live ordnance dropped at the training ranges fails to detonate and remains on the training ranges. As a result, live unexploded ordnance is at the surface and buried at various depths due to impact and wind erosion covering the ordnance. New technology for identifying and removing subsurface ordnance over large areas has been developed by the Naval Research Laboratory, but the technology has not been tested at the NAS Fallon training ranges. Sweeps indicate that ordnance dropped at B-20 is contained within the training range boundaries.

Other NAS Fallon Lands. B-16, B-17, and B-19 have been in use since the 1950s for air-to-ground bombing and contain an unknown amount of subsurface unexploded ordnance. In addition, sweeps of the lands surrounding the training ranges revealed areas of off-range ordnance, and in 1991 approximately 24,464 acres of land around the other training ranges were placed under a BLM emergency closure order. These areas are depicted on Figure 5-12 in Section 5.2.12, Public Health and Safety, and are proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS to minimize the public's risk of exposure to existing off-range ordnance. The land near B-16 contains only practice/inert ordnance, which may or may not have spotting charges or other reactive materials for scoring purposes, but has no live explosive fillers.

Hazard Analysis Mitigation Report

The Naval Air Station Fallon Ranges Hazard Analysis Mitigation Report, September 1995, used the HAZARD methodology to identify land at and around the training ranges necessary to contain the ordnance delivered during training activities (US Navy 1995g).

B-20. The safety footprint for B-20 encompasses almost the entire existing training range boundary, including both withdrawn and Navy-acquired fee simple lands (US Navy 1995g; US Navy 1995h). The renewal of the B-20 land withdrawal is necessary to allow for the continuation of ordnance delivery training at B-20. The B-20 training range composite weapon safety footprint is presented on Figure 1-5.

Other NAS Fallon Lands. The safety footprints for the other NAS Fallon training ranges are presented on Figure 5-11 in Section 5.2.12, Public Health and Safety. The safety footprints for B-16, B-17, and B-19 encompass the majority of training range lands and spill into the proposed Range Safety and Training Public Land Withdrawal area, emphasizing the need for these lands for public protection from existing and potential unexploded ordnance (US Navy 1995g; US Navy 1995h). The HAZARD analysis does not apply to other Navy lands as no air-to-ground training occurs there.

PUBLIC INVOLVEMENT

Public Scoping

Pursuant to NEPA, a public scoping process for the renewal of withdrawn lands at B-20 was conducted from November 13, 1997, to February 13, 1998. The purpose of scoping was to identify potential environmental issues that would be raised by the renewal of withdrawn lands at B-20. The scoping process for this Draft LEIS included placing notices in the Federal Register and newspapers, conducting public scoping meetings, and using direct mail. Comments received during the scoping period have been considered in determining the issues to be evaluated in the LEIS.

The public was notified of the Navy's intent to prepare this LEIS by a notice of intent (NOI) published in the November 13, 1997, issue of the Federal Register. Legal ads were published in local newspapers, including the Lovelock Review Minor on November 26, 1997, the Lahontan Valley News on November 28 and 29, 1997, and the Reno Gazette on November 30 and December 1, 1997. The NOI and legal ad are provided in Appendix C.

Letters announcing public scoping meetings and describing the proposed action were mailed to all public agencies, Native American tribes, public interest groups, and individuals known to have or thought to have an interest in the renewal of the B-20 withdrawal. The scoping letter invited written comments and announced public scoping meetings on December 9, 1997, in Fallon, Nevada, on December 10, 1997, in Lovelock, Nevada, and on December 11, 1997, in Reno, Nevada. The public scoping meetings were preceded by open houses at the same locations. Six individuals attended the public scoping meeting in Fallon, no one attended the public scoping meeting in Lovelock, and nine individuals attended the public scoping meeting in Reno. One person offered oral comments at the Fallon meeting, and three people presented comments at the Reno meeting. During the scoping process, two letters were received.

Draft LEIS

The public is invited to review and comment on the Draft LEIS. A Notice of Availability was published in the Federal Register and public notices were mailed to those on the mailing list announcing the public review period. This public review period provides an opportunity for the public to review the issues addressed in the impact analyses and offer appropriate comments on any aspect of the process. Concerned agencies, organizations, and individuals are invited to send written comments on the Draft LEIS to: Mr. Sam Dennis, Naval Facilities Engineering Command, Engineering Field Activity West, 900 Commodore Drive, San Bruno, California, 94066-0720. Public meetings will be held during the public review period to formally receive verbal and written comments on the Draft LEIS. The meeting locations and times will be announced in local newspapers.

ALTERNATIVES

As summarized below, one action alternative and the No Action Alternative are evaluated in detail in the LEIS.

- *Preferred Alternative: Continued Military Need for and Request Renewal of the Land Withdrawal at B-20.* Under the Preferred Alternative, the Navy would apply for a renewal of the 21,576-acre withdrawal at B-20, as outlined by PL 99-606. The Navy would continue to use B-20 for training operations consistent with those currently conducted and as specified in Section 1(a)(2)(A) and (B) of PL 99-606. This alternative would not withdraw additional lands, establish additional public use restrictions, or increase aircraft operations. The Navy would prefer a withdrawal with an indefinite time period, but Congress will determine the length of the withdrawal.
- *No Action Alternative.* Under the No Action Alternative, the Navy would not apply for a renewal of the 21,576 acres of withdrawn land at B-20. By November 6, 1998, the Navy would advise the Secretary of the Interior of its intent to relinquish the withdrawn lands at B-20 (Section 8[a][1]). Navy training activities at B-20 would cease when the withdrawal expires on November 6, 2001.

Prior to submitting notice, the Secretary of Defense, acting through the Navy, would prepare a written determination concerning the extent to which the lands to be relinquished are contaminated with toxic, explosive, and hazardous materials (Section 8[b][1]). If the Secretary of the Interior, in consultation with the Secretary of the Navy, decides that decontamination is practically and economically feasible, and upon decontamination the land could be opened to operation of some or all public land laws, the Secretary of the Navy would decontaminate the land to the extent that funds were appropriated for such a purpose (Section 8[c]).

If the Secretary of the Interior, after consulting with the Secretary of the Navy, were to conclude that decontamination is not practically or economically feasible, or that the land could not be decontaminated sufficiently to be opened to operation of some or all of the public land laws, or if Congress were not to appropriate a sufficient amount of funds for decontaminating the lands, the Secretary of the Interior would not be required to accept the land for relinquishment (Section 8[d]).

On November 6, 2001, the B-20 withdrawal would expire. Relinquishing 21,576 acres of withdrawn land at B-20 would result in the loss of any practical use of the remaining 19,430 acres at B-20 due to the checkerboard pattern of the acquired and withdrawn lands. While this alternative does not fulfill evaluation criteria for training requirements, inclusion of the No Action Alternative is required by NEPA.

If the withdrawn land at B-20 is contaminated to an extent that prevents opening the land to the public and if the Secretary of the Interior declines to accept jurisdiction over the land at the expiration of the withdrawal, the Secretary of the Navy must take appropriate steps to warn the public of the contaminated state of the B-20 land and of any risks associated with entry onto B-20 land. In addition, the Navy may not undertake any activities on B-20 land except in connection with decontamination (PL 99-606, Section 8(e)). If the land were sufficiently decontaminated, the Department of the Interior would assume administration of the 21,576 acres at B-20. The Bureau of Reclamation (BUREC) would retain existing rights under their withdrawal of public lands for the Newlands Reclamation Project.

In addition to the alternatives described above, four alternatives were eliminated from detailed consideration because they did not fulfill one or more of the evaluation criteria. Each of these alternatives is presented below, along with a discussion on why they are not considered reasonable.

- *Request Partial Renewal of B-20 Land Withdrawal.* This alternative would involve a partial renewal of the original 21,576 acres withdrawn under PL 99-606. A portion of the original withdrawal would be renewed, while the remaining portion would be relinquished. A partial renewal would not be a reasonable alternative because it would adversely affect the training mission of NAS Fallon. The HAZARD weapon safety footprint encompasses the majority of the B-20 training range. A partial withdrawal would result in NAS Fallon's inability to continue to use B-20 for existing ordnance delivery training. Relinquishing any withdrawn land would result in lost use of surrounding acquired land given the checkerboard pattern of withdrawn and acquired lands. Since the 2,000-pound live ordnance delivery training conducted at B-20 is not conducted at any other NAS Fallon training range, this would adversely affect NAS Fallon's training mission. Therefore, this alternative was eliminated from further consideration.
- *Filing of Notice to Relinquish B-20 Land Withdrawal and Increased Operations at Other NAS Fallon Training Ranges.* Relinquishing 21,576 acres of withdrawn land at B-20 would result in the loss of any practical use of the remaining 19,430 acres at B-20 acquired by the Navy due to the checkerboard ownership pattern of the lands. In order to meet training requirements, this loss would have to be compensated for in some manner where possible, such as increasing operations at other NAS Fallon training ranges. The training ranges are used to such an extent that increasing operations at training ranges B-17 and B-19 to a level necessary to compensate for loss of B-20 would not be possible. In addition, some of the training conducted on B-20 cannot be conducted at any of the other training ranges. B-20 is the only training range that is remote, has room for growth on the training range, and allows for delivery of 2,000-pound live ordnance.

Therefore, without replacing B-20 in some fashion, NAS Fallon would no longer be able to fulfill its training mission. Consequently, this alternative was eliminated from further consideration.

- *Filing of Notice to Relinquish B-20 Land Withdrawal and Relocating B-20 Training Activities to Other Department of Defense Facility or Installation.* This alternative would relocate the B-20 training activities to another DOD facility or installation. Use of other regional training facilities to accommodate B-20 training activities would not adequately fulfill the various training missions at NAS Fallon. The FRTC is the primary provider of integrated combat tactical training and large force deployment for Naval units. Training conducted at B-20 is integrated with training conducted at the other training ranges in the FRTC and cannot be separated out. Relocating training activities conducted on one training range would degrade the overall training mission at NAS Fallon.

The FRTC as a whole has the airspace, remoteness, training systems, and training ranges, including impact areas, necessary to conduct the mandated training operations. No other regional DOD facility has the available training range and airspace capacity and availability to support CVW training or to accommodate the intensity and frequency of the various training missions at NAS Fallon. For example, Nellis Air Force Range (NAFR), the closest DOD range to NAS Fallon, is available for scheduling 100 hours per week. In 1995, the range was used an average of 86 hours per week for a utilization rate of 86 percent. The remaining scheduled but unused time at the range can be attributed to cancellations of range availability due to unscheduled maintenance, operational constraints, or weather constraints. Considering these factors, Nellis ranges are operating at near 100 percent capacity. With NAFR near 100 percent saturated, there is no unused capacity to absorb NAS Fallon aircraft training operations onto Nellis Air Force Range (Garner 1998). Therefore, combat training time for NAS Fallon at Nellis Air Force Range would not be available and could not be guaranteed, preventing NAS Fallon from fulfilling its training mission.

In addition, Nellis Air Force Range is a testing and evaluation (T&E) facility that focuses on research and development operations, while the ranges at NAS Fallon are operations and maintenance (O&M) ranges that focus on combat training. While some of NAS Fallon's training may be conducted on T&E ranges, it is not a priority within the T&E mission, and the availability of combat training systems, targets, and resources is severely limited for O&M training.

The use of another regional training range to accomplish training activities conducted at B-20 would increase en route travel time, thereby decreasing actual training time and the life of the airframes. Using other regional training

ranges would not be cost-effective because additional fuel would be required for transit to the training ranges.

The use of other regional training ranges would not eliminate impacts of training activities but would transfer impacts from B-20 to the new training location. Because B-20 is nearly 20 miles from the nearest sensitive receptor, has no sensitive biological resources, and contains few valued natural resources, impacts from training at another regional training range would likely be greater than impacts from continued training at B-20. For these reasons, this alternative was eliminated from further consideration.

- *Request Renewal of B-20 Land Withdrawal, Close B-16 Training Range, and Transfer B-16 Operations to B-20, Other NAS Fallon Training Ranges, or Other Regional DOD Facility or Installation.* This alternative would close the B-16 training range and would relocate B-16 training operations to B-20, to other NAS Fallon training ranges, or to another regional DOD facility or installation.

Close B-16 and Transfer Operations to B-20 Training Range. This alternative would close the B-16 training range and would transfer operations to B-20. Closing B-16 and transferring operations to B-20 is not a reasonable option because it would adversely affect the training mission of NAS Fallon. B-20 is currently used to such an extent that increasing operations at B-20 to the level necessary to accommodate for B-16 training would not be possible. Operations that could be transferred from B-16 to B-20, such as military training routes, have already been transferred. The remaining training performed at B-16 is not compatible with current B-20 training requirements. B-20 is located within the commodore airspace used for advanced training operations, such as major air wing and joint service training events. B-16 is under completely separate airspace from commodore airspace and allows training to occur independently and concurrently at B-16 while advanced training is occurring at B-20 and the rest of the FRTC. B-16 is used daily under current operating conditions by fleet replacement squadrons and other DOD services for basic and intermediate air-to-ground training. Realigning training from B-16 to B-20 would greatly limit the availability for this training.

Close B-16 and Transfer Operations to Other NAS Fallon Training Ranges. Closing B-16 and transferring operations to other NAS Fallon training ranges also is not a reasonable option because it would adversely affect the training mission of NAS Fallon. As discussed above, transferring all training requirements from one training range (B-16) to other NAS Fallon training ranges is not feasible. The other training ranges are used to such an extent that increasing operations at the other training ranges to a level necessary to compensate for loss of B-16 would not be possible. Operations that could be transferred from B-16 (realignment of 12 military training routes to B-20) have

already been transferred. The remaining training performed at B-16 would not be compatible with the use of the other NAS Fallon training ranges, which are under commodore airspace and used concurrently during air wing training and joint service training events. B-16 is the only range at NAS Fallon that is not used during a major air wing event and therefore is the only range available for other training events during these times. Closure of B-16 would limit other training when air wings were training at NAS Fallon.

If it were possible to relocate training from B-16 to other training ranges at NAS Fallon, it would adversely affect the long-term viability and strategic importance of the FRTC and NAS Fallon, as defined in part by BRAC. Three rounds of base closure and realignment decisions have resulted in the closure of many western military facilities, resulting in the realignment of training missions to facilities, such as NAS Fallon, that were not slated for closure.

In addition, the airspace over B-16 is used by air training units from NAS Lemoore, California, NAS Cecil Field, Florida, NAS Whidbey Island, Washington, Marine Corps Air Station (MCAS) Yuma, Arizona, Nellis Air Force Base (AFB), Nevada, MCAS Miramar, California, Mt. Home AFB, Idaho, Barry M. Goldwater AFB, Arizona, and Hill AFB, Utah. Closing B-16 without replacing it with a new dedicated range would affect training operations throughout the DOD.

Close B-16 and Transfer Operations to Other DOD Facility or Installation. Closing B-16 and transferring B-16 training operations would adversely affect the training mission of NAS Fallon in that the basic and intermediate training and training by other forces performed at B-16 throughout the entire 52 weeks per year could not be guaranteed at other regional ranges. As described in detail above, Nellis Air Force Range, the closest range to NAS Fallon, operates near capacity and could not absorb the training now accomplished at B-16. Relocating this training would result in the same adverse effects to training as described for relocating B-20 to another regional facility, such as increased en route travel time, increased travel risks, decreased actual training time, and decreased life of the airframes. Using other regional training ranges would not be cost-effective because additional fuel would be required for transit to the training ranges.

ENVIRONMENTAL ANALYSIS

Affected Environment

The existing environmental and socioeconomic conditions at B-20 are presented in Chapter 3 of the LEIS as the basis for identifying and evaluating environmental impacts resulting from the alternatives. The existing environmental and socioeconomic conditions at other NAS Fallon-administered lands are presented in Chapter 5 of the LEIS as a basis for assessing cumulative effects of military land withdrawal and airspace actions.

The environmental analysis focuses on those resources potentially affected by the proposed action and on topics that have received public concern. Those resources include land use, biological resources, geology and soils, water resources, cultural resources, environmental justice and socioeconomics, air quality, noise, mineral resources, livestock and wild horse management, recreation and visual resources, public health and safety, and transportation.

Environmental Consequences

The LEIS evaluates the environmental impacts resulting from the Preferred Alternative, the renewal of the B-20 land withdrawal and continued use of B-20, and the No Action Alternative, the relinquishment of withdrawn lands and no continued military use at B-20. Under the No Action Alternative, the lands either would be retained by the Navy and would remain closed to public access or, if practically and economically feasible, the lands would be decontaminated and relinquished to the BLM for full or partial public use.

The environmental consequences analysis uses the existing B-20 environmental conditions described in Chapter 3 as the baseline for assessing the magnitude of change for each alternative. The magnitude of potential impacts is assessed based on significance criteria. Where significant impacts are identified, mitigation measures are proposed to reduce the intensity of the impact to nonsignificant levels. An overview of impacts to each resource category is provided below.

Land Use. Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts to land use. The existing land use of B-20 is as a weapons delivery target for military training. This land use would continue if the withdrawal were renewed. The training range would remain fenced and access would continue to be restricted; however, opportunities for other land uses are extremely limited. Uses on surrounding lands would continue as currently managed by the BLM or BUREC, with no new restrictions as a result of this action. This alternative would not withdraw additional lands or establish additional public use restrictions.

No impacts would result from reversion of B-20 to the public domain under the No Action Alternative. The change in land use status would be compatible with existing land use plans, which recognize the site as federally controlled. The 14,080 acres withdrawn by the BUREC for the Newlands Reclamation Project that coincide with the Navy withdrawal would not be affected by the Navy's relinquishment of the B-20 land withdrawal. If decontamination is deemed practically and economically feasible such that the land can be decontaminated sufficiently to be opened to operation under some or all public land uses and if the BLM assumes management, the region, with the possible exception of the BUREC withdrawal lands, may be opened for multiple public uses, including recreation, mining, energy production, and grazing. However, given the limitations of the

geology and soils and the degraded visual condition of the range, public use would likely be very low.

Biological Resources. The renewal of withdrawn lands at B-20 and continued Navy use would not have any significant impacts to biological resources. No threatened, endangered, or special-status species have been documented within B-20. The limited habitats within B-20 already are disturbed from past Navy activity, and most of the lands within B-20 consist of barren alkali flats and playas chiefly devoid of plant and animal life. With a lack of an established vegetative base and complex food chain, continued Navy training would not have significant impacts to plants or wildlife at or near B-20.

Studies on soils at other DOD desert training ranges in Nevada and California show that little to no explosives contamination occurs from ordnance delivery operations, thereby not affecting biological resources (US Air Force 1996b; US Marine Corps 1997). Sampling of water in ponded craters at B-20 shows low to nondetectable levels of inorganic (e.g., metals), soluble, and volatile organic compounds beyond naturally occurring background levels. Such compounds, if present, could inhibit the production of aquatic species within the craters but would not be expected to adversely affect terrestrial fauna or avian species that may transit the site and use the craters for a temporary water source. Therefore, continued Navy training activities at B-20 would not likely have any impacts to plants or wildlife at or near B-20, including the wildlife refuge south of the range.

Direct mortality of wildlife species from Navy training activities has not been documented and is not believed to be a common or significant occurrence. In the unlikely event an individual or small group of individuals are harmed directly by training activities or ordnance, the population as a whole would not be significantly affected. Noise levels from continued operations would not increase from current levels. Foraging, nesting, and resting activities of waterfowl and shorebirds at the Fallon and Stillwater National Wildlife Refuges would not be impacted by noise, nor would migration patterns or bird populations be affected. Likewise, operational noise would not significantly impact wildlife.

The No Action Alternative would result in no significant impacts to biological resources. Although uncertain, vegetative recovery may be possible over the long-term if ordnance activities ended at B-20. Several varieties of playa- and alkali-adapted vegetation do exist in the region, and others may have historically been present on B-20. If vegetation expansion and diversification occurs, microhabitats could develop that would better support existing wildlife and new transient species. The absence of ordnance delivery training at B-20 would lead to reduced noise levels at the training range. Although noise has not been proven to have significant effects on populations at or near B-20, the reduction in noise could make the area more favorable for transit and foraging. During the decontamination process, much of the existing habitat could be destroyed. This

would be a short-term impact, as natural processes would eventually reclaim the landscape. Public use of the area would have negligible impacts on biological resources. The greatest effect would be from off-road vehicle (ORV) use, which could destroy vegetation and startle wildlife.

Geology and Soils. Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to soil conditions or geological resources. Continuing training activities would create new craters and disturb soil, but this impact is not significant because the surface area already is highly disturbed with craters, and the affected soils have no agricultural value, wildlife habitat, or recreational value. Soil at B-20 has not been sampled for contamination; however, studies on soils at other DOD long-term desert bombing ranges in Nevada and California show that little to no explosives residue remains in the soil (US Air Force 1996b; US Marine Corps 1997). This suggests that explosives contamination at B-20 also would be limited. The Preferred Alternative would not impact oil, gas, or geothermal resources because similar resources are available elsewhere in the Carson Sink.

Removal of unexploded ordnance under the No Action Alternative would result in significant but mitigable impacts on soils. The decontamination process would require extensive earth-moving, disturbing much of the surface to subsurface area of the training range. These disturbances would involve much of the playa and all of the sand dunes surrounding Lone Rock. These activities would increase erosion and interrupt the natural deposition and shifting of sand. Once decontamination is complete, natural processes would gradually reclaim the disturbed surface, making this a temporary impact. This impact would be mitigated by constructing wind erosion barriers around the decontamination areas and covering soils to prevent transport of sediments onto adjacent public lands. Implementing the No Action Alternative would have a short-term beneficial impact to soil conditions during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. This would reduce erosion rates of soils and Lone Rock.

Water Resources. The renewal of withdrawn lands at B-20 and continued Navy use is not expected to have any significant impacts on water quantity or quality. The natural water quality in the Carson Sink is poor; ground water at B-20 is too saline for irrigation and is not potable. There are no water developments at B-20, and surface water is not used for human consumption, irrigation, or any other productive uses.

Water sampling at B-20 indicates that Navy actions have not resulted in inorganic (e.g., metals), soluble, or volatile organic compound contamination. Constituents with detectable levels tend to be common in the regional geology and cannot be directly linked to Navy operations. No sampling for explosives has been undertaken at B-20, but soil sampling performed at other long-term desert

bombing ranges in California and Nevada found low to nondetectable levels of explosive residues in soils (US Air Force 1996b; US Marine Corps 1997).

Given the distance to any producing well and the fact that B-20 is in a regional hydrologic sink, surface and subsurface migration of water from B-20, such as towards the Stillwater National Wildlife Refuge, would not be expected. Surface and subsurface water in the region flows northeastward, away from Fallon towards B-20. Surface and subsurface water tends to flow from the Fallon and Stillwater National Wildlife Refuges towards B-20 and the Carson Sink. Only during infrequent high water years does the Carson Sink flood to such a degree as to spill over into the Stillwater National Wildlife Refuge. During such flooding events, any chemical debris from B-20 is diluted to such a degree as to be undetectable and poses no threat to water quality. Therefore, the Preferred Alternative would not affect the water levels and would not expose people to hazardous materials in areas subject to inundation.

Reverting B-20 to the public domain under the No Action Alternative would have no significant impacts to surface or ground water as potential public uses would not affect these resources. During decontamination procedures, munition residues, if present, could become distributed in the basin during flooding events. However, as noted for the Preferred Alternative, sampling shows low or nondetectable levels of contaminants.

Cultural Resources. No impacts to prehistoric and historic archeological resources would result under the Preferred Alternative. NAS Fallon's Programmatic Agreement with Nevada, the Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation (NAS Fallon 1996) accepts that most of B-20 is a high impact area, and it is not likely that prehistoric or historic archeological properties have survived with sufficient integrity to qualify for the National Register of Historic Places. No impacts to historic architectural resources would result because no historic buildings or structures exist on B-20. No impacts to properties possessing traditional cultural significance to a community would result from continued use of B-20. As part of the public outreach program, the Navy held meetings with the Tribal Council and spiritual leaders of the Walker River Paiute Tribe and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony to determine if Lone Rock has traditional cultural significance for the Paiute community. Both tribes assessed traditional and current cultural values of the site and found that Lone Rock no longer has such traditional or cultural values to the Paiute community.

Implementing the No Action Alternative would cease bombing activities on B-20, resulting in a beneficial impact to any unidentified prehistoric or historic archeological resources that may be located within B-20. Decontamination activities may result in adverse effects to unidentified subsurface resources. There

would be no impacts to historic architectural resources or properties of traditional cultural significance because these types of resources do not exist within B-20.

Environmental Justice and Socioeconomics. Renewing withdrawn lands at B-20 and continued Navy use would have no impacts on socioeconomic conditions. There would be no jobs created or lost as a direct result of the action, nor would there be a loss or gain in income generation or business volume. Impacts to members of the Walker River Paiute Tribe, Lovelock Tribe, and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony were examined. The Preferred Alternative would not disproportionately affect the health or economic opportunities of the tribes because the action does not involve Native American lands and because Navy operations near the lands would not change from existing conditions. The access restrictions placed on B-20 are applied equally to all racial and income groups. The Paiute community does not consider Lone Rock a property of traditional cultural significance, and the continued military use of the site would not impact the cultural identity of the community. Therefore, continued use would not disproportionately impact members of the Paiute community.

Implementing the No Action Alternative would have adverse but not significant impacts from relinquishing B-20, potentially resulting in a loss of jobs, income, and business volume. If decontamination procedures are adopted, there would be short-term minor beneficial socioeconomic impacts from employment creation, increased demands for goods and services, and regional spending. Opening B-20 to public land uses would have a negligible to minor beneficial economic impact from increased recreational spending and possible job creation from resource extraction. Minority and low-income populations would not be disproportionately impacted by this alternative. All segments of the population are expected to be affected equally.

Air Quality. Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts to air quality. B-20 is in an unclassified/ attainment area for all of the criteria pollutants; therefore, no Clean Air Act conformity determination is required for this action. No new air pollutant-generating activities are proposed under the Preferred Alternative, so no increase in air emissions or violation of federal or state air quality standards would occur.

Implementing the No Action Alternative would have a short-term beneficial impact to ambient air quality during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. Beneficial effects would be minor based on the remoteness of the area and existing high levels of air quality. Minor short-term effects to air quality would result from earth-moving activities during decontamination of the training range. Opening the land to public use would result in effects to air quality from recreational activities. Such

activities would likely be minimal and would not result in violations of federal or state ambient air quality standards.

Noise. Renewing withdrawn lands at B-20 and continued Navy use would not affect ambient noise conditions in the region and would have no impacts to noise levels. There are no proposals to change the types or numbers of aircraft using the training range, the type of ordnance dropped at the training range, or aircraft flight patterns. Exploding ordnance and ingress and egress aircraft would continue to be audible over most of the northern portion of the Carson Sink at an acceptable and compatible level with surrounding lands; there are no residences or other sensitive receptors near the training range. Flight operations over the Job Peak and Stillwater Wilderness Study Areas and the Fallon and Stillwater National Wildlife Refuges occur at over 3,000 feet above ground level where tactically feasible; therefore, noise levels at these areas would remain within acceptable ranges.

Implementing the No Action Alternative would have a short-term beneficial impact to ambient noise levels during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. While this would be a beneficial impact, the magnitude would be minor because of the remote nature of the training range and because there are no sensitive receptors affected by current operations. Operating large earth-moving equipment would have short-term and localized effects on noise levels. Opening the land to public use would have minor to negligible effects on noise conditions. Noise produced during decontamination activities and public use would not exceed existing levels, therefore they are considered to be a minor beneficial impact.

Mineral Resources. Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to mineral resources or mining activity. The continued restriction of mining is not considered a significant impact because no locatable minerals have been identified within B-20, and geologic evidence indicates that it is highly unlikely that any locatable lode minerals exist within B-20. There are no active nonmetallic mineral leases within B-20 and such activities would not be affected by the Preferred Alternative.

Implementing the No Action Alternative would have adverse, but not significant, effects on mineral resources resulting from the decontamination process. During this process, surface and near-surface mineral deposits, such as sodium salts, would be disturbed and potentially removed. Given the limited availability and low potential for economically extracting such resources, and given the availability of more regionally productive sites, this impact is not considered significant. If the lands are opened for public prospecting, there is a low potential for establishing valid mining claims; this opportunity would represent a beneficial impact. Mining activity may require additional regulations to protect prospectors from deep subsurface ordnance that may remain undetected during decontamination procedures.

Livestock and Wild Horse Management. Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts on livestock grazing or wild horse management. Cattle are not permitted to graze on B-20 and the training range is fenced, which keeps out wild horses. There are no grazing allotments, wild horse management areas, or water developments on or near B-20.

Implementing the No Action Alternative would not impact livestock or wild horses while the land is under Navy control and during decontamination procedures. Once decontamination is completed, the land could be opened to multiple uses including grazing. The playa area, however, is not suitable for grazing and the few areas that provide vegetation (less than 200 acres) have a poor range production value. Therefore, no beneficial or adverse effects are expected.

Recreation and Visual Resources. Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts on recreational opportunities or quality. No public access is allowed on B-20, which would continue under the Preferred Alternative. The Preferred Alternative would not introduce any new restrictions on recreational activities or alter existing recreational values, such as noise levels and visual stimuli. There are no formal plans to increase the number of aircraft, change flight patterns, or use different ordnance at the training range.

The Preferred Alternative also would have no significant impacts on visual resources, although continued use would further degrade the landscape, resulting in an adverse impact on the local viewshed. Lone Rock is the dominant visual natural feature on B-20. Continued military use would continue to shatter and erode the rock surface, along with increasing the number of craters in the playa. Manmade features, such as spotting towers, visual cueing devices, and run-in lighting, would remain at the site and new structures could possibly be added in the future. While many of these structures use landscaping and natural paint colors to reduce visual distraction, some remain visible across the flat playa. This impact would not be considered significant because viewer sensitivity is low, the visual character is not outstanding, and the training range is remote and physically removed from sensitive viewpoints, such as highways and other developments.

Recreational values would increase under the No Action Alternative because the cessation of ordnance delivery training would reduce noise levels in the Stillwater Range, Humboldt Range, and the Fallon and Stillwater National Wildlife Refuges. Current noise levels, however, are considered compatible with recreational activities. Recreation at B-20 would remain restricted until the decontamination process is complete and the BLM assumes responsibility for the land. If the land is opened for public use, recreational opportunities would be limited by natural conditions. ORV operators would probably be the predominant recreational users. The BUREC would retain existing rights for the 14,080 acres withdrawn for the Newlands Reclamation Project that coincide with the Navy's withdrawal.

Under the No Action Alternative, the decontamination process would require large amounts of earth-moving, particularly within the vicinity of the target areas. This short-term adverse visual impact is not considered significant because of the low viewer sensitivity in the area. The sand dunes would be substantially disturbed and much of the surrounding playa would be altered with the creation of topographic features as soil is scraped and removed. These changes would not be permanent, as natural processes would eventually reclaim the landscape.

Public Health and Safety. Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to public health and safety. The site would remain fenced and posted, and the Navy would retain the right to restrict access to ensure that the public is protected from military activities and on-site hazards, including unexploded ordnance. HAZARD analysis of B-20 determined that the safety footprint is within the existing boundary; therefore, there would not be any increased risk to public users of adjacent lands.

Under the No Action Alternative, if decontamination is adopted and the land opened under some or all public laws, there could remain a significant but mitigable impact from deeply buried ordnance. Any public use that disturbs the subsurface would pose a safety risk. Restricting public subsurface activity at all or part of B-20 or allowing limited subsurface activity pending additional ordnance surveys, if feasible, would reduce this impact to a nonsignificant level. Closure of the B-20 training range would have some public safety benefits in that ordnance drops would cease. This effect would be negligible to minor because the current public risk is minimal.

Transportation. Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to regional transportation. Roadways and rail lines would not be affected by the action, and air traffic would be managed as under existing conditions.

The No Action Alternative would not have any impacts to regional transportation. Roadways and rail lines would not be affected. There would be a beneficial impact to civilian aircraft if the restricted airspace above B-20 is also relinquished; this would allow unimpeded transit over B-20. Civilians currently transit the airspace if it is not in use for military activities; therefore, this is not a significant change to regional airspace management.

Cumulative Impacts

The cumulative effects of existing, proposed, and reasonably foreseeable military actions in the region were assessed. This analysis includes existing and proposed NAS Fallon withdrawn lands as specified by PL 99-606 Section 5(b)(2)(A), proposed airspace actions at NAS Fallon, and existing and proposed land withdrawals by other DOD and Department of Energy (DOE) facilities in Nevada. Project-specific environmental documentation will be prepared for all

proposed and reasonably foreseeable actions prior to implementation. A summary of regional cumulative impacts as detailed in Chapter 6 is provided below.

Land Use. Existing land withdrawals conform to applicable planning laws and policies. Navy training activities generally are compatible with the uses on surrounding federally managed lands; off-range ordnance lands that are not compatible with public uses would be withdrawn if the proposed Range Safety and Training Public Land Withdrawal is implemented. The proposed land withdrawal would eliminate access to Category A lands and limit the height of structures on Category B lands to 50 feet. The Navy will consider waiver of the height limit in cases where structures exceeding 50 feet are proposed for short-term development. Waivers must not pose a safety hazard to aircrews. Permanent nonconforming structures may be allowed in some areas if such structures are compatible with Navy training operations and do not pose a safety hazard. Proposed and reasonably foreseeable airspace designations are not expected to have significant land use impacts, except in areas of low altitude flights.

Biological Resources. Habitat conditions on withdrawn lands at Hawthorne Army Depot, Nellis AFB, NAS Fallon, and DOE sites have been affected by construction and military activities, including the delivery of explosives ordnance, and from noise due to aircraft overflights and ordnance detonation. Continued use of the withdrawn lands may further degrade habitat conditions near impact areas. The habitat quality at these areas, however, is already low due to past use. Although wildlife on withdrawn lands may experience startle effects due to overflights, past studies suggest that most ungulates and avian species potentially found on withdrawn lands habituate to aircraft noise (SAIC 1991). The level of effect, however, cannot be conclusively determined. It is evident that military activities have not had a widespread catastrophic effect on wildlife and vegetation in Nevada, though minor incidents such as fires have occurred on occasion. Continued use would result in effects similar to those currently resulting from military operations.

The proposed change in flight patterns at B-16 would reduce noise levels near Sheckler Reservoir, thereby benefiting bald eagle habitat and waterfowl. The new flight pattern would result in increased noise levels immediately south of B-16. No sensitive species are known to exist in this area and no significant impacts are expected. Reasonably foreseeable airspace designations potentially would enlarge the area that would be affected by overflights, although there would be no increase in the number of flights. Wildlife in these areas could be subject to some startle effects, but studies of effects from existing flight activities suggest that they would not be significant.

Water Resources. It is likely that land-disturbing activities on the withdrawn lands may have increased sedimentation in some of the surface water resources. There is no indication that significant impacts to surface water resources have occurred as a result of land withdrawals and subsequent military use.

Ground water resources within withdrawn lands are not expected to be significantly affected by continued military and DOE activities. Ground water contamination has been identified at some DOD and DOE sites, and remediation programs have been adopted to mitigate effects. Monitoring and hazardous material and waste management policies have been implemented to prevent future actions that could contaminate ground water.

Most withdrawn lands restrict access for the development of water sources. As the population of Nevada continues to expand and the demand for water increases, these restrictions may hinder growth opportunities. Water management plans and access rights could be developed between the state and DOD/DOE if needed to address water demand issues. Impacts from proposed airspace actions are not expected to impact water resources.

Cultural Resources. Defense-related activities have impacted the cultural resources located on withdrawn lands in Nevada. The Air Force, Navy, Army, and DOE have adopted or are developing cultural resource management plans to minimize future impacts. Inadvertent losses still may occur from military uses; however, significant historical and archeological resources on withdrawn lands are not expected to be impacted. No impacts are anticipated to cultural resources from airspace disestablishment and designation at B-16. The Navy would have to undertake some effort to identify cultural resources and evaluate potential effects to cultural resources and determine their significance in the area of the MOAs from low altitude flights, as per the requirements of the CRMP and PA.

Environmental Justice and Socioeconomics. Defense-related activities on withdrawn lands in Nevada are projected to contribute \$2,027,000,000 to the state Gross Regional Product by 2000 and to employ approximately 22,000 people (SAIC 1991). This represents approximately four percent of the total state Gross Regional Product and over two percent of total state employment. The primary economic trade-off of DOD and DOE use is the land use restrictions placed on withdrawn lands, which prevent or limit agriculture, grazing, mining, and recreation. The economic value of these foregone opportunities would not exceed current contributions to the state economy from the DOD and DOE.

All populations would continue to be equally impacted by defense operations; therefore, no disproportionately high or adverse effects are expected to minority or low-income communities. Airspace designations are not expected to have any socioeconomic impact or result in disproportionately high and adverse human health or environmental effects on minority or low-income populations.

Air Quality. Based on federal and state air quality standards, source point compliance, and total emissions data as the measures of significance, air emissions from DOD and DOE activities do not result in significant regional air quality concerns (SAIC 1991). DOD and DOE air emissions are low and are released over large and sparsely populated areas so that the resulting pollutant concentrations are extremely low. The only significant air quality problems in Nevada are confined to urban areas of Reno, Lake Tahoe, and Las Vegas. The DOD activities near Las Vegas do not contribute substantially to the federal nonattainment conditions.

The proposed B-16 airspace designation restructuring would not increase training operations and would not affect local air quality. The reasonably foreseeable airspace designations would allow military aircraft to train over a larger area compared to existing conditions. All potential and reasonably foreseeable airspace actions would be in areas that are unclassified/attainment for the federal ambient air quality standards; therefore, this action would not require a Clean Air Act conformity determination.

Noise. Noise associated with withdrawn lands results from aircraft overflights, helicopter operations, ground-based training, including vehicle operations, and live ordnance explosions. All withdrawn lands are remote and generally removed from most sensitive noise receptors. However, noise from aircraft overflights and sonic operations have adversely affected some residents. As populations increase around NAS Fallon and Nellis AFB, the potential for noise complaints may increase. Fallon and Las Vegas have adopted land use and building codes to try to reduce such incompatible land uses. Noise levels from the proposed realignment of airspace over B-16 would benefit residents near Sheckler Reservoir and not have any significant impacts. The reasonably foreseeable airspace designations would have the potential to affect sensitive receptors during low-level flights.

Mining. Lands withdrawn in Nevada for defense-related purposes could contain deposits of gold, molybdenum, tungsten, lead, zinc, copper, and silver, numerous small deposits of base and precious metals, and commercially viable geothermal reservoirs. Most of the defense-related withdrawals are deemed either unfavorable or marginally favorable for oil and gas. Virtually all of these lands contain some form of industrial minerals and materials. Defense-related land withdrawals in Nevada have excluded, and would continue to exclude, mining, petroleum, and geothermal industries from approximately six percent of the total acreage in Nevada that otherwise would be available for exploration and development. Impacts from proposed or reasonably foreseeable airspace actions are not expected to impact mineral resources.

Livestock Grazing and Agriculture. Military and DOE withdrawals have restricted some lands from potential livestock grazing and agricultural opportunities. While this has resulted in lost revenue from grazing and agriculture, revenue from

military facilities likely exceeds that lost from grazing and agriculture. The continued use of withdrawn lands would have no effects on existing grazing and agricultural opportunities. Impacts from proposed airspace actions are not expected to impact livestock grazing or agricultural production.

Recreation. The Special Nevada Report (SAIC 1991) describes in detail the suitability of withdrawn lands in Nevada for recreational activities. This analysis determined that most withdrawn lands could support the same recreational activities that are performed on other undeveloped arid lands of the Great Basin and Mojave Deserts, including camping, hunting, hiking, ORV use, horseback riding, and rock hounding. While public access is generally restricted on most DOD and DOE withdrawn lands, these areas (and proposed withdrawal lands) do not contain recreational opportunities that cannot be found on nearby public lands. Therefore, while DOD and DOE use of withdrawn lands would continue to limit recreational activities, this is not expected to significantly impact recreational opportunities or quality. Impacts from proposed airspace actions are not expected to impact recreational resources, although increased noise levels could decrease recreational values.

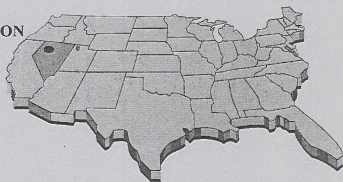
Visual Resources. Most withdrawn lands used by the military and DOE are remote and similar in topography and scenic quality with surrounding lands. Land-disturbing activities, such as ordnance detonation, have affected the visual qualities by creating unnatural features, including structures and craters. Continued use of these areas may result in additional alterations to the viewshed. These effects, however, would not be significant because of the homogeneity within viewsheds and because there are few sensitive receptors, such as highways, homes, and high-use recreation areas, near the withdrawn lands. Impacts from proposed or reasonably foreseeable airspace actions are not expected to impact visual resources.

Public Health and Safety. Current military activities do not cause unreasonable risks to the health, safety, or property of the citizens of Nevada (SAIC 1991). Continued use of withdrawn lands would not result in an increase in flight operations; therefore, the risk of public exposure to off-range ordnance or objects inadvertently released from aircraft would remain minimal. The effects of the continued use of chaff, while not considered significant by the DOD, are being evaluated by the General Accounting Office. The proposed change in B-16 flight paths would not increase public health hazards because the action shifts flight activity from north of B-16 to south of B-16 where the population is significantly less. The reasonably foreseeable airspace designations could enhance safety by removing overflight activity from the more populated parts of the region, reducing the risk from aircraft mishaps.

Transportation. Hazardous materials would continue to be shipped via pipeline, trucks, rail, and aircraft to DOD and DOE installations. Stringent regulations are in place by the DOD and DOE to minimize transportation risks. Accidents involving defense-related hazardous material are not known to be disproportional to other accidents; therefore, continued use of highways, rail lines, and airways would not have a significant impact on transportation safety.

Continued use of the withdrawn lands would allow DOD facilities to continue aircraft training, ordnance deliveries, and integrated air-to-ground training. Restricted airspace would remain in place, requiring civilian aircraft to divert around these regions when they are in use by the military. Additional airspace would not be created as a direct result of continuing to use withdrawn lands; therefore, there would be no changes to existing conditions. None of the proposed changes in designated airspace occur in a major airway and are not expected to impact air, rail, or roadway transportation.

NAS
FALLON



1.0 PURPOSE OF AND NEED FOR ACTION

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CHAPTER 1

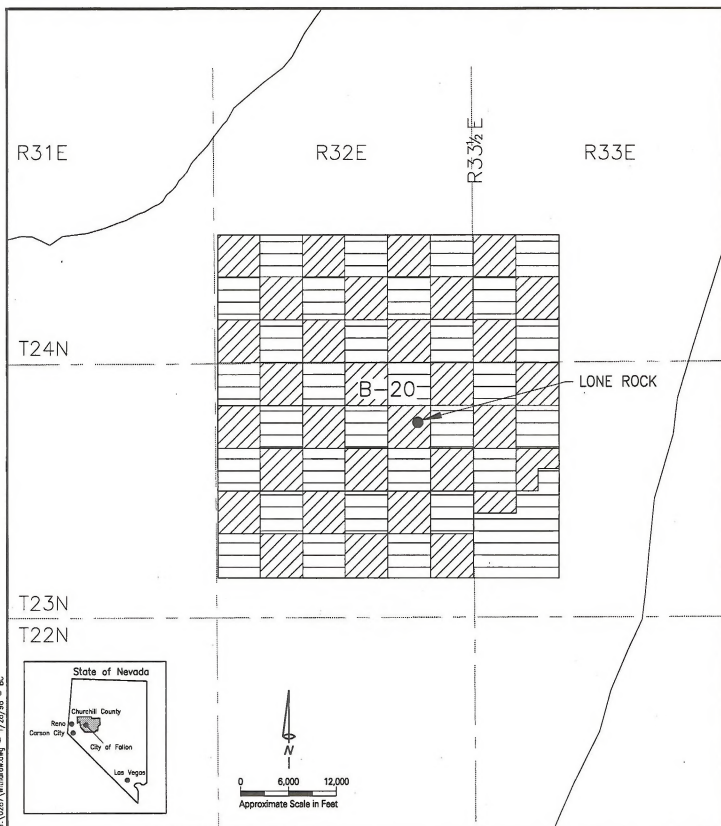
PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

In November of 1986, Congress passed the Military Lands Withdrawal Act of 1986 (Public Law [PL] 99-606), which withdrew public lands in Nevada, New Mexico, Arizona, and Alaska for the Departments of the Navy, Air Force, and Army (Section 1). Under this legislation, approximately 21,576 acres of land in a checkerboard pattern were identified for Navy use in Churchill County, Nevada, to support Naval Air Station (NAS) Fallon's Bravo-20 (B-20) training range (Section 1[a]). These withdrawn lands, together with 19,430 acres of land in a checkerboard pattern acquired from the Southern Pacific Railroad Company, form the B-20 training range (Figure 1-1). PL 99-606 withdrew no other lands for administration by NAS Fallon. PL 99-606 is included as Appendix A of this document. As directed by Section 8 of PL 99-606, only lands included in Section 1 of PL 99-606 can be renewed or relinquished under the provisions of this act.



Section 5(a) and (b)(1) of PL 99-606 provides: "the withdrawal and reservation established by the Act will terminate 15 years after the date of enactment of the Act. No later than 12 years after the date of enactment of PL 99-606 [November 6, 1998], the Secretary [of the Navy] shall publish a draft environmental impact statement (EIS) consistent with the requirements of the National Environmental Policy Act of 1969 (NEPA) concerning continued or renewed withdrawal of any portions of the lands withdrawn by this act for which the Secretary intends to seek such continued or renewed withdrawal."

The Navy proposes to renew the lands at B-20 withdrawn under PL 99-606. The other land withdrawals at NAS Fallon discussed in this document do not require renewal under this action. Because the proposed action results from past legislation, this document is a Legislative EIS (LEIS). NEPA requires that proposals for legislation significantly affecting the quality of the human



B-20 was formally established with lands acquired from the Southern Pacific railroad company in 1982 and lands withdrawn in 1986. These lands form a checkerboard pattern at the range.

Legend

-  Lands withdrawn under PL 99-606
-  Lands acquired from Southern Pacific Railroad Co.

***Withdrawn and
Acquired Lands at B-20***

NAS Fallon, Nevada

environment be integrated with the legislative process of Congress. An LEIS is the detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress. The statement must be available in time for Congressional hearings and deliberations (40 Code of Federal Regulations [CFR] 1506.8[a]).

The proposed action of this LEIS, evaluated in Chapters 1 through 4, is the renewal of withdrawn lands at the B-20 training range. The purpose for the renewal of withdrawn lands at B-20 is to continue to provide training areas at B-20 in support of NAS Fallon's national security-mandated mission. B-20 is an indispensable and unique component of the Fallon Range Training Complex (FRTC) in that it is the only training range that is remote, has room for growth on the range, and allows for delivery of 2,000-pound live ordnance. Any future development on B-20 would be subject to appropriate NEPA documentation. The proposed action would not result in increases in aircraft operations. Sections 1.5 and 1.6 discuss the purpose and need of the proposed action.

For purposes of NEPA analysis and this Draft LEIS, the term "lands withdrawn by this Act" must include lands withdrawn by NAS Fallon in Public Land Orders (PLOs) 275, 788, 898, and 2635, and lands proposed for withdrawal in the EIS for the Withdrawal of Public Lands for Range Safety and Training Purposes. This EIS, formerly known as the Master Land Withdrawal EIS and referred to in this document as the Range Safety and Training Public Land Withdrawal EIS, was released in draft form for public review in July 1997 (PL 99-606, Section 5[b][2][A]). These other lands, as well as lands withdrawn under PLO 6834, are described in Chapter 5, Other NAS Fallon Lands, and evaluated in Chapter 6, Cumulative Impacts. Though not subject to renewal, the continuing need for these lands is discussed in this chapter.

The Navy is required to advise the Department of the Interior (DOI) as to whether the Navy will have a continuing military need for those lands withdrawn by PL 99-606 (Section 8[a]). Pursuant to this requirement, the Navy has advised DOI that it does have a continuing military need for B-20. PL 99-606 does not provide for withdrawal of any lands other than those at B-20, as described in Section 1(a) of PL 99-606. All other land withdrawals at NAS Fallon discussed in this document do not require renewal under this action.

This Draft LEIS fulfills the Navy's requirements under PL 99-606. The LEIS has been prepared in accordance with the Military Lands Withdrawal Act of 1986, NEPA, the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR Parts 1500-1508), and the Navy's Environmental and Natural Resources Program Manual (32 CFR 775; OPNAVINST 5090.1B). The Navy is the lead agency for the proposed action. The Navy requested that the Bureau of Land Management (BLM) be a cooperating agency.

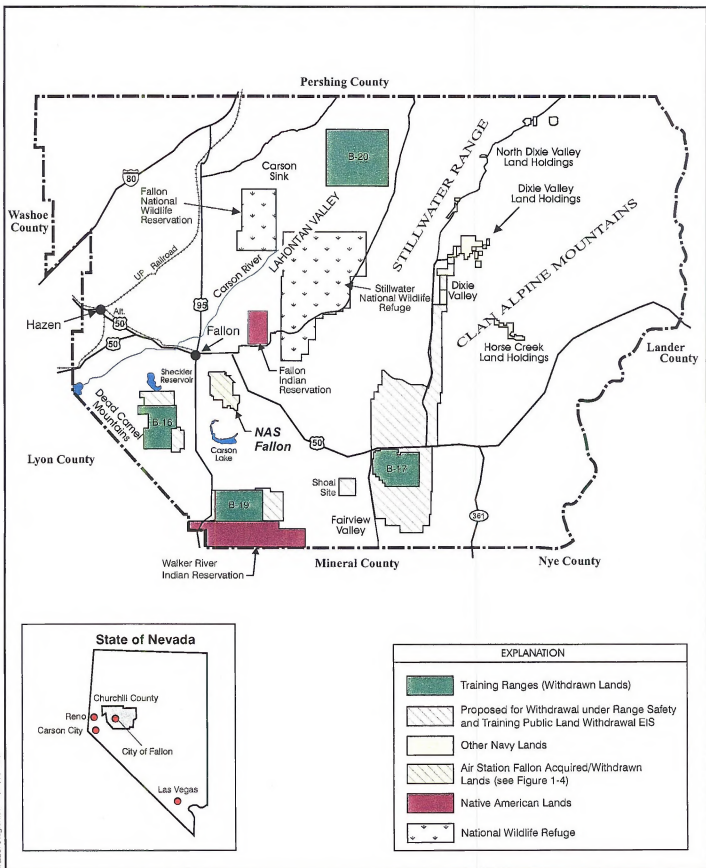
This chapter provides a brief overview of the history of NAS Fallon and explains the purpose of and need for the proposed action, the renewal of withdrawn lands at B-20, and demonstrates the continuing need for other NAS Fallon lands. Chapter 2 describes the proposed action and alternatives in detail, including alternatives eliminated from detailed review. Chapter 3 presents the current affected environment at B-20. Chapter 4 analyzes the potential environmental impacts from renewal of the B-20 land withdrawal, pursuant to PL 99-606. Chapter 5 describes the other existing NAS Fallon withdrawn lands and the areas proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS, pursuant to Section 5(b)(2)(A) of PL 99-606. Chapter 6 evaluates the cumulative effects of the B-20 renewal combined with other past, present, and reasonably foreseeable land withdrawal and airspace actions, including existing and proposed NAS Fallon land withdrawals described by Section 5(b)(2)(A) of PL 99-606. Chapters 7 through 10 provide background information, including consultation with interested and responsible agencies, list of preparers, references, and the LEIS distribution list. The appendices provide public laws and public land orders, public scoping materials, and agency consultation letters.

1.2 LOCATION AND HISTORY OF NAS FALLON

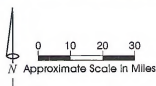
NAS Fallon is located in the Lahontan Valley of Churchill County in west-central Nevada, approximately 70 miles east of Reno and six miles southeast of the City of Fallon. The Dead Camel Mountains and Sheckler Reservoir are west of NAS Fallon, and the Carson River lies to the northwest. The Fallon Paiute-Shoshone Indian Reservation and the Stillwater National Wildlife Refuge are northeast of NAS Fallon, the Stillwater Mountain Range is east, and Carson Lake is south (Figure 1-2).

In 1942 the United States (US) Army Air Corps established the original facilities at NAS Fallon for inland defense. The Navy took over the base in 1943, and in 1944 the facility was commissioned as a naval auxiliary air station (NAAS) under the control of NAS Alameda, California. Under the National Emergency War Powers Act, the NAS Fallon training range complex was created in April 1944 with the temporary establishment of training range B-20, a high impact air-to-ground training range. Two additional training ranges, Bravo-17 (B-17) and Bravo-19 (B-19), were established by use permit in 1945.

Following World War II, NAAS Fallon was deactivated to a maintenance level, placed in caretaker status, and turned over to the Bureau of Indian Affairs. The airstrip was reopened in 1951 as a naval auxiliary air station. In 1953 the Navy reactivated Bravo-16 (B-16) and B-17 and withdrew B-19 lands for an indefinite period.



NAS Fallon is located in Churchill County, Nevada. In addition to the air station, the Navy administers four training ranges and owns land in the Dixie Valley. The Walker River Indian Reservation extends into Mineral and Lyon Counties.



Location of US Navy Lands

NAS Fallon, Nevada

Figure 1-2

In 1942, the Navy withdrew approximately 623,000 acres of public land to establish the Black Rock Desert Air to Air Gunnery Range, but the withdrawal was revoked in 1943. The training range was reestablished in 1944 with 700,000 acres, was reduced to 272,000 acres in 1949, and then was returned by the Navy in 1963 to the BLM. In 1944, the Navy withdrew 800,000 acres to establish the Sawwave Gunnery Range. These lands were relinquished in 1946. The training range was reestablished in 1958, with 519,000 acres of public land, and was relinquished again in 1965. Both the Black Rock and Sawwave Ranges were located approximately 50 miles northwest of NAS Fallon in Humboldt and Pershing counties and are depicted on Figure 6-1 of Chapter 6, Cumulative Impacts. The lands remain in the public domain and are administered by the BLM.

In 1972, NAAS Fallon was reclassified as a major command and was upgraded to a naval air station with the primary mission of training and supporting naval air groups. NAS Fallon formally established the FRTC in 1977 to provide airspace and training range facilities for air warfare training. In 1982, approximately 19,429 acres of land within B-20 were acquired by the Navy through condemnation proceedings from the Southern Pacific Railroad Company. Approximately 21,576 acres of land within B-20 were withdrawn in 1986 under PL 99-606, formally establishing the training range. The FRTC currently includes four geographically separate training ranges (B-16, B-17, B-19, and B-20), three air traffic control gap filler radar sites, a tactical aircrew combat training system (TACTS), an electronic warfare (EW) area, a supersonic operations area, and other special use airspace. All of the training ranges originally were designed for the performance and tactics of World War II-era and Korean Conflict-era aircraft.

The Navy is proposing to withdraw approximately 127,365 additional acres of land around training ranges B-16, B-17, and B-19, at the shoal site, and in the Dixie Valley area. This land is needed to meet the training mission at NAS Fallon and to provide the necessary land area to maintain and improve realistic operational and strategic combat training, while providing safety zones around the existing training ranges. No increase in aircraft operations or target impact areas are proposed as part of this action. The environmental effects of this action have been evaluated in the Range Safety and Training Public Land Withdrawal EIS, released for public review in July 1997 (US Navy 1997c) and are summarized in Chapter 6 of this LEIS. Table 1-1 lists the enactment date, withdrawn acreage, duration, and location of former, existing, and proposed NAS Fallon withdrawn lands.

Table 1-1
Former, Existing, and Proposed Withdrawn Lands Supported by NAS Fallon

PLO/PL Number	Enactment Date	Withdrawn Acreage	Location of Withdrawal	Term ¹
PLO 275	April 23, 1945	160	NAS Fallon	In perpetuity
PLO 788	January 10, 1952	2,400	NAS Fallon	Indefinite
PLO 898	June 12, 1953	17,280	B-16	Indefinite
		21,400	B-17	Indefinite
		17,332	B-19	Indefinite
PLO 1632	May 1958	272,000	Black Rock Range	5 years ²
		519,000	Sahwave Range	5 years ³
PLO 2635	March 20, 1962	967	NAS Fallon	Indefinite
PLO 6300 ⁴	July 22, 1982	None	B-17	Indefinite
PLO 6834	February 11, 1991	400	NAS Fallon	20 years
PL 99-606	November 6, 1986	21,576	B-20	15 years
Proposed Range Safety and Training Public Land Withdrawal ⁵	—	127,365	Around B-16, B-17, and B-19, shoal site, and the Dixie Valley area	25 years

¹ "Indefinite" is defined as the term ending only when the lands are "no longer needed by the Department of the Navy for the purpose for which they are reserved, such as military training and support." If terminated, the withdrawn lands would return to BLM or BUREC jurisdiction.

² Relinquished in 1965.

³ Relinquished in 1967.

⁴ Amends PLO 898 by redefining the legal description of B-17. No acreage change.

⁵ The proposed Range Safety and Training Public Land Withdrawal would withdraw an additional 10,400 acres around B-16, 33,400 acres around B-17, 12,200 acres around B-19, 68,600 acres in the Dixie Valley area, and 2,765 acres at the shoal site.

1.3 INVENTORY OF NAS FALLON LAND HOLDINGS

The Federal Land Policy and Management Act of 1976 (FLPMA) defines withdrawn lands as "an area of Federal Land withheld from settlement, sale, location, or entry, under some or all of the general land laws for the purpose of limiting activities under these laws in order to maintain other public values in the area; or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal Land . . . from one department, bureau, or agency to another" (43 United States Code [USC] 1701 Section 103). NAS Fallon currently has 114,631 acres of land under its administration. Of these lands, 33,116 acres were acquired by the Navy and 81,515 acres are withdrawn public lands administered by the Navy. All of the acquired lands are associated with the air station or B-20 with the exception of 9,741 acres that were acquired in the Dixie Valley. All of the withdrawn lands are associated with the air station or training ranges. At B-20, 19,430 acres in a checkerboard pattern (every other square mile section) are held in fee simple; 21,576 acres were originally in the public domain but were withdrawn for Navy use by PL 99-606. Under the proposed Range Safety and Training Public Land Withdrawal EIS, the Navy would administer an additional 127,365 acres of withdrawn land. The Navy also maintains BLM rights-of-way for communication and emitter sites.

Public land withdrawals can be authorized by an executive order, PLO, or legislative public law. Prior to 1958, Executive Orders 9337 and 10355 gave the

Secretary of the Interior the authority to issue PLOs for public land withdrawals. The 1958 Engle Act modified the withdrawal procedure, requiring congressional approval for any withdrawals larger than 5,000 acres that are to be used for military purposes. In 1976, FLPMA further defined the land withdrawal process by requiring a formal application process, requiring public hearings for new withdrawals, and outlining procedures for extending the duration of existing withdrawals and for establishing emergency withdrawals. All withdrawn lands that support operations of NAS Fallon were transferred to the Department of the Navy by PLOs and PLs.

The withdrawn lands currently administered by the Navy in Nevada play a vital role in the national security-mandated mission of NAS Fallon. The Navy uses and conducts its training mission over five geographically separate parcels of land within Churchill County. These parcels are the air station and the B-16, B-17, B-19, and B-20 training ranges (Figure 1-3 and Figure 1-4). These lands are discussed in detail in Chapter 5, Other NAS Fallon Lands. The proposed Range Safety and Training Public Land Withdrawal EIS also would withdraw land at the Department of Energy (DOE) shoal site west of B-17 and in the Dixie Valley to create sixth and seventh geographically separate parcels. The withdrawal at the shoal site would be a Navy withdrawal over a DOE withdrawal, with DOE maintaining responsibility for monitoring and cleanup resulting from past actions.

The acreage and status of each parcel is presented in Table 1-2. Appendix B provides the legal descriptions of the withdrawals as filed or published in the Federal Register.

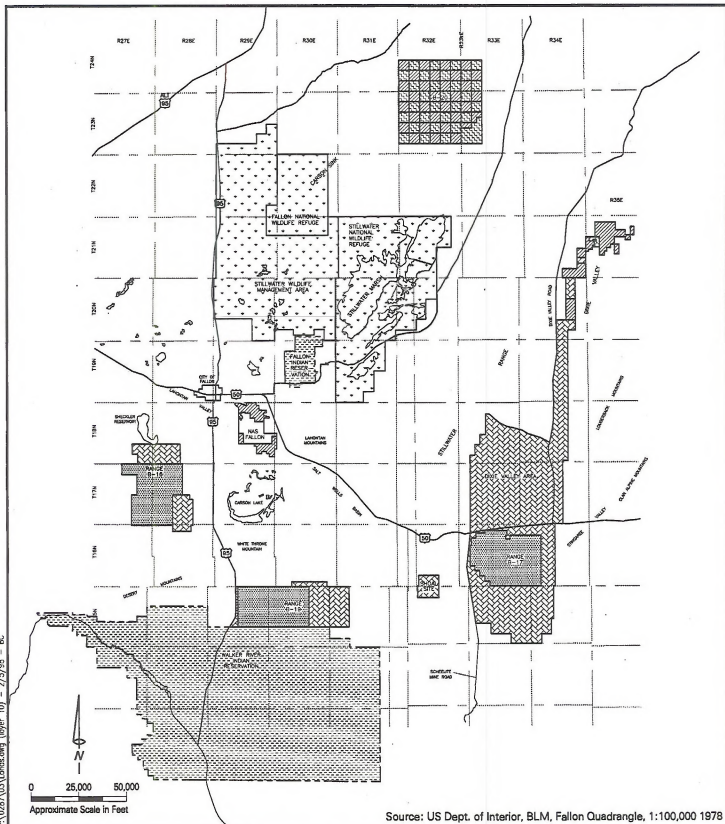
Table 1-2
Lands Currently Administered by NAS Fallon¹

Location	Total Acreage	Acquired Land ²	Withdrawn Land
NAS Fallon	7,872	3,945	3,927
B-16	17,280	0	17,280
B-17	21,400	0	21,400
B-19	17,332	0	17,332
B-20	41,006	19,430	21,576
TOTAL	104,890	23,375	81,515

Sources: US Navy 1991a; SAIC 1991

¹ The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw an additional 10,400 acres around B-16, 33,400 acres around B-17, 12,200 acres around B-19, 68,600 acres in the Dixie Valley area, and 2,765 acres at the shoal site.







² NAS Fallon also administers 9,741 acres of acquired lands in the Dixie Valley.



Source: US Dept. of Interior, BLM, Fallon Quadrangle, 1:100,000 1978

Lands at training ranges B-16, B-17, and B-19 were withdrawn in 1953 under PLO 898. Lands at B-20 were acquired in 1992 or withdrawn in 1986 under Public Law 99-606.

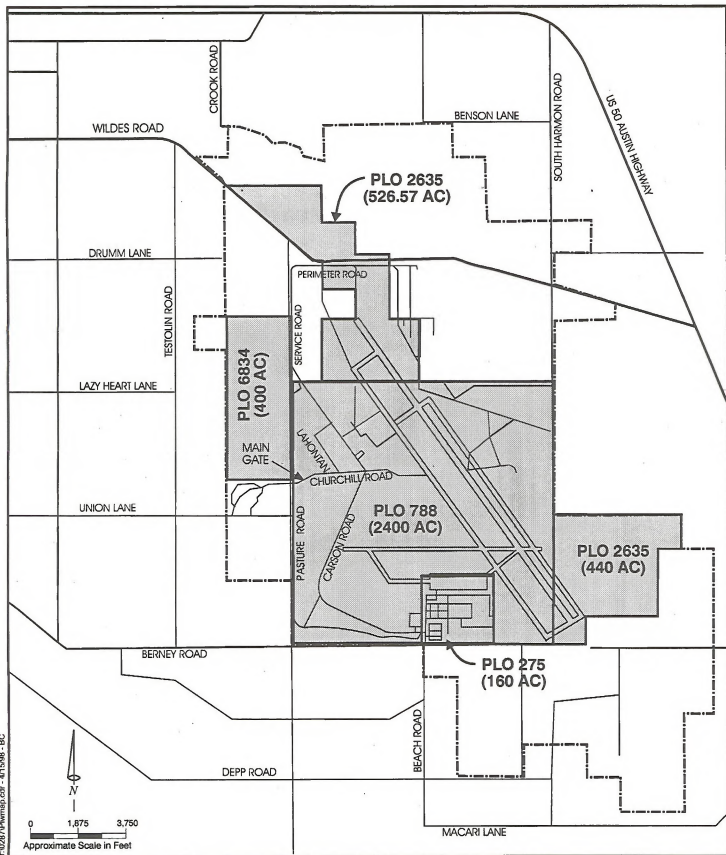
Legend

-  Withdrawn lands under PLO-898
-  Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
-  Withdrawn lands under PL 99-606
-  Navy-owned lands
-  Wildlife Area
-  Indian reservation

NAS Fallon Withdrawn Lands

NAS Fallon, Nevada

Figure 1-3



Lands at the NAS Fallon Air Station have been withdrawn under four separate public land orders-PLO 275 in 1945; PLO 788 in 1952; PLO 2635 in 1962; and PLO 6834 in 1991.

LEGEND:

- NAS Fallon Boundary
- Withdrawn Lands

***Withdrawn Lands at the
Air Station Fallon***
NAS Fallon, Nevada

Figure 1-4

1.4 NAVAL AIR TRAINING

This section describes the continuum of training for Navy pilots, the training mission at NAS Fallon, and training facilities at NAS Fallon. This discussion applies to training at all NAS Fallon lands and is not specific to B-20; training is integrated throughout the training range complex.

1.4.1 Naval Air Training Continuum

Naval air training at NAS Fallon follows a continuum from basic training to increasing levels of training complexity and intensity. The training continuum starts with basic flight training, continues with fleet replacement squadron (FRS) training, unit level training, typewriting weapon school training, integrated air wing training, and ship and battlegroup workups, and ends with deployment. NAS Fallon follows the axiom, "Train like you fight." The components of training are described below.

Basic Flight Training. This is the initial training administered to all naval aviators from the first day of flight training to the day the aviator earns his or her wings. This basic flight training is conducted in training aircraft and occurs over one to two years. Basic flight training occurs primarily at B-16.

Fleet Replacement Squadron Training. FRS training is the initial training in fleet aircraft and takes five to eight months. NAS Fallon has two permanent F/A-18 FRS detachments that use B-16 and B-20.

Unit Level Training. This is the day-to-day training performed in a deployed squadron. It emphasizes single aircraft, section (two aircraft), and division (four aircraft) events. Unit level training achieves initial basic qualifications for new aircrew and maintains proficiency for aircrews that are already qualified. Most West Coast units use NAS Fallon and the FRTC for their unit level training. Unit level training occurs at B-16.

Typewriting Weapon School. The typewriting weapon school offers a structured syllabus administered by each typewriting to standardize squadron unit level training. At the completion of unit level and typewriting training, aircrews are familiar with their aircraft, aircraft weapons and weapon systems, and single aircraft, section, and division tactics. Navy F/A-18, F-14, and EA-6B weapon schools train at NAS Fallon training ranges and use B-17, B-19, and B-20.

Integrated Air Wing Training. The integrated air wing training brings squadrons together to train as a team for the first time. Teams perform integrated air wing strikes. All air wing aircraft types meld their capabilities together to form a coherent fighting force. All Navy air wings train at NAS Fallon and the FRTC. Air wing training utilizes B-17, B-19, and B-20.

Battlegroup Workups. During battlegroup workups an air wing deploys aboard an aircraft carrier to operate and train with an entire battlegroup (aircraft carrier, cruisers, destroyers, frigates, and submarines). The unit level training to the battlegroup training usually takes six to 18 months, depending on the battlegroup deployment schedule. Navy air wings conduct strikes from the carrier to the NAS Fallon training ranges.

Because the FRTC is capable of providing all levels of naval air training and because it is the only range with airspace, targets, threats, and instrumentation capable of accommodating an entire carrier air wing, the FRTC is the Navy's best training range.

1.4.2 NAS Fallon Training Mission

The mission of NAS Fallon is to provide facilities (including training ranges), services, and materials to tenants and transient units stationed at or being deployed to NAS Fallon for Chief of Naval Operations (CNO)-approved aviation training. The Naval Strike and Air Warfare Center (NSAWC) is the major tenant command at NAS Fallon; it was formed in July 1996 and assumed the missions of several other tenants and functions at NAS Fallon, including the Naval Strike Warfare Center, TOPGUN, Carrier Airborne Early Warning Weapons School (Top Dome), and the NAS Fallon Range Department. NSAWC develops realistic combat training scenarios for military aircrews flying high-performance jet aircraft and helicopters, employing state-of-the-art military equipment and tactics. NSAWC operates, maintains, schedules, develops, and configures the FRTC. The NAS Fallon training mission includes, but is not limited to, the regimens presented below.

Carrier Air Wing (CVW) Training. NAS Fallon supports, trains, and houses CVWs for initial and refresher integrated strike training. A CVW consists of all aircraft, pilots, crew, and aircraft maintenance personnel assigned to an aircraft carrier. A typical CVW consists of 75 to 90 aircraft and an aircrew of between 1,500 and 2,000 personnel. NAS Fallon hosts four to six CVWs and up to two Marine air groups per year for an intensive four-week training program prior to their scheduled deployment aboard aircraft carriers or to air stations overseas (US Navy 1995e). This integrated training focuses on combat tactics and team building by allowing aircrews to perform realistic combat warfare techniques, including air-to-air and air-to-ground combat scenarios. In addition, NAS Fallon provides integrated ground training and air support scenarios. The CVW training takes place predominately at B-17, B-19, and B-20, which are all within commodore airspace. Commodore airspace consists of all restricted airspace and military operations area airspace associated with these training ranges and provides the airspace necessary for air wing training events.

Fleet Replacement Squadron Training. In addition to CVWs, NAS Fallon hosts an FRS detachment. The FRS detachment is based permanently at NAS Fallon and operates a maintenance facility for F/A-18s from NAS Lemoore, California, and NAS Cecil Field, Florida, the respective West Coast and East Coast Hornet FRSs (US Navy 1995e). A typical FRS detachment consists of 12 aircraft. FRS training occurs at all of the training ranges, including B-20, except when a CVW is training; during these times FRS training takes place at B-16 and B-20.

Naval Fighter Weapons School (TOPGUN) Training. TOPGUN conducts a syllabus focusing on air-to-air combat and air-to-ground strike training. This program trains aircrews to defeat enemy aircraft through advanced offensive and defensive tactics. The TOPGUN training syllabus has been renamed and incorporated in the NSAWC program. The number of flights and program objectives remains the same.

Integrated Air and Ground Training. In addition to aircraft training, the NSAWC Fallon mission supports integrated air and ground training, including combat search and rescue training. Combat search and rescue training consists of integrated training with ground personnel and helicopter and fixed wing air support. The objective of the training is rescuing and transporting ground personnel, such as downed pilots, within enemy territory. NAS Fallon is the only Navy facility where the combat search and rescue mission is conducted. Ground units learn how to mark targets for aircraft and how to neutralize enemy positions, including radar sites, surface-to-air missile sites, and early warning devices. This combat search and rescue scenario generally consists of three to six personnel training with an additional three to six person "opposition" team. Pilots learn how to transport personnel and how to perform reconnaissance for ground personnel. Most ground training is associated with the four to six air wing events that occur each year at NAS Fallon. Realistic integrated air and ground training is critical to the successful performance of FRSs and the deployment of CVWs. Ground training at NAS Fallon occurs as a component of the integrated air and ground training mission; it is not a stand-alone mission.

1.4.3 NAS Fallon Training Assets and Capabilities

This section defines NAS Fallon training assets and capabilities, including the training ranges and air station, commodore airspace, and electronic threat emitters and scoring equipment. Section 1.6 discusses the continuing need for lands associated with NAS Fallon to allow for these assets and capabilities in support of the training mission at NAS Fallon.

Training Ranges and Air Station. The most important component of the NAS Fallon operational training capabilities are the training ranges and the air station. B-20 is described in detail in Chapter 2, Section 2.2, and B-16, B-17, and B-19 are described in detail in Chapter 5, Section 5.1. The training ranges provide target areas for air-to-ground ordnance delivery training and live weapons firing and

provide limited area in support of integrated air and ground training. The air station, described in detail in Chapter 5, Section 5.1, provides the aircraft runway system, aircraft maintenance and support facilities, personnel housing and support facilities, and administration facilities in support of Naval training at NAS Fallon.

FRTC Airspace. NAS Fallon maintains restricted and military operations area airspace above its administered lands. The airspace above B-17, B-19, and B-20 is referred to as commodore airspace, as defined in Section 1.4.2. Commodore airspace supports air wing training events and may accommodate 50 to 60 aircraft in the air at one time. Restricted airspace above B-16 is apart from commodore airspace and provides a separate training area for NAS Fallon and other users during air wing training events.

EW and TACTS Sites, Visual Cueing Devices, and WISS. Realistic and strategic combat training representative of combat situations Navy personnel may face around the world requires the use of EW and TACTS sites and visual cueing devices. The existing NAS Fallon lands provide the area for these activities to a limited degree; the lands proposed for withdrawal would further fulfill the Navy's requirement for these assets. Weapons impact scoring systems (WISS) are utilized on existing training range lands. These capabilities are described below.

EW Sites. The NAS Fallon EW sites represent a diversified complex of staffed and unstaffed multiple range radar systems that transmit search and tracking signals to simulate training scenarios (US Navy 1995b). Each EW site consists of one or more emitter units that can be employed to provide different presentations for different training scenarios. Equipment at each site may include height finder radars, search radars, a communications shelter, a microwave voice transmitter and data communications link, a maintenance van, a diesel aboveground storage tank, and a 200-kW or smaller generator. Equipment at these sites is powered by electric lines, with an emergency diesel generator as backup. Three to five personnel are stationed at each staffed site for six-day periods.

TACTS Remote Communication Relay Stations. TACTS is made up of a network of Tracking Instrumentation Subsystem (TIS) sites that provide real-time tracking weapons simulation and an electronic replay of the movements and performance of aircraft within the FRTC. This tracking is necessary to evaluate training practices and pilot performance and to provide enhanced aviation safety by increasing the ability to identify participating military aircraft locations throughout the FRTC. A TACTS remote communication relay station generally consists of a solar panel, which provides electrical power to the system, and a relay station. The relay station operates in conjunction with an airborne aircraft pod and a distant TACTS master station. The remote relay receives and retransmits telemetry data about the aircrafts' geographic and vertical position, plus dynamic flight parameters to the TACTS master station. From this point, the data are transmitted to a central computer for processing, display, and evaluation.

Visual Cueing Devices. Visual cueing devices provide combat strike pilots with a variety of necessary visual scenario challenges to enhance aircrew situational awareness. The aircrew's ability to sight and recognize ground threats is an essential element of overland air combat strike training. Visual cueing includes active and passive cueing. Active visual cueing devices primarily consist of the "Smokey SAM" and the imaging weapons training system (IWTS). The Smokey Sam is a 6-inch by 15-inch pyrotechnic-powered projectile constructed of formed paper used during CVW training. The projectile simulates the initial boost phase of a surface-to-air missile (SAM). The IWTS device, which is smaller than a jeep, transmits a target image to attacking aircraft. It gives pilots the capability to guide a simulated stand-off weapon to the ghost target using their cockpit weapons guidance systems. Passive visual cueing devices include mock mobile launch vehicles, replicated or actual foreign mobile (vehicular) weapon systems, tanks, and personnel carriers.

WISS. WISS is a visual system that scores the impacts of ordnance on all targets in day and night conditions. The system uses a series of video cameras that can be trained on the various targets. The cameras are controlled remotely from the Range Operations Center at NAS Fallon.

1.5 PURPOSE OF THE PROPOSED ACTION

Preparation of this LEIS has been mandated by the Military Lands Withdrawal Act of 1986, as discussed in Section 1.1, Introduction. The purpose of the proposed action, the renewal of withdrawn lands at B-20, is to continue to provide training areas at B-20 in support of NAS Fallon's national security-mandated mission.

While the purpose of the proposed action relates only to the renewal of withdrawn lands at B-20, and only B-20 lands are subject to renewal, the purpose of the LEIS also is to demonstrate a continuing need for other NAS Fallon lands.

1.6 NEED FOR THE PROPOSED ACTION AND CONTINUED USE OF OTHER NAS FALLON LANDS

This section details the need for the proposed action, the renewal of withdrawn lands at B-20, and describes the continuing need for other withdrawn lands administered by or proposed for administration by NAS Fallon. These other lands, defined in Table 1-2, are not subject to renewal under PL 99-606 but are included herein pursuant to PL 99-606 (Section 5(b)(2)(A)). The need for B-20 and the continuing need for other lands are integral to the successful completion of training mission requirements at NAS Fallon. The Navy's need to renew withdrawn lands at B-20 and to continue to use other withdrawn lands is a function of the tactical and training needs of NAS Fallon resulting from its national security-mandated mission, the strategic location and established resources of the FRTC, and public safety. NAS Fallon is an ideal training facility in that the airspace generally overlies a sparsely populated area and the training ranges are in close proximity to the air station. The need for B-20 is further detailed below.

- B-20 is indispensable to the Navy training mission and is a unique component of the NAS Fallon range training complex in that it is associated with commodore airspace and is the only training range that is remote, has room for growth on range, and allows for delivery of 2,000-pound live ordnance; and
- Existing withdrawn lands at B-20 consolidate administration of land management patterns to provide for public safety from training operations.

1.6.1 Tactical Needs

Military technology has changed dramatically since the training ranges at NAS Fallon were established. The modern Navy uses high-speed jets equipped with state-of-the-art weaponry and communication, navigation, and guidance systems. These jets can achieve high speeds and accurately target enemy installations. However, to be effective and to maximize their performance in combat situations, pilots must have intense and realistic training. Today's pilots face a variety of threats, including heat-seeking, radar-guided surface-to-air missiles and enemy aircraft. These threats require pilots to engage in countermeasures to avoid enemy detection and attack. Examples of such measures include dispersing chaff to interfere with enemy radar, releasing flares to decoy surface-to-air or air-to-air missiles, and executing low evasive flight maneuvers over varying terrain to avoid radar detection. Ordnance delivery often must be conducted at high speeds and at varying altitudes. Pilots also must be trained to engage in close air-to-air combat with enemy aircraft equipped with similar technology. A pilot's actions and reactions must be second nature under combat conditions. The only way to achieve such skills is extensive training under representative threat conditions. The training assets and capabilities described in Section 1.4.3 provide for this training. Table 1-3 contains an overview of these assets and capabilities by training range.

Table 1-3
Training Assets and Capabilities at Each Training Range

Type of Training/Capability	Training Range			
	B-16	B-17	B-19	B-20
WISS capability	X	X	X	X
Commodore airspace capability		X	X	X
Strafing		X	X	X
25 to 1,000-lb live ordnance drop		X	X	X
2,000-lb live ordnance drop				X
EW capability		X		
FRS training	X	X	X	X
CVW training		X	X	X
Inert ordnance drop	X	X	X	X
Helicopter ingress/egress	X	X	X	X

1.6.2 Training Needs

Section 1.4 details the training mission at NAS Fallon. Training considerations applicable to all NAS Fallon lands are discussed below, followed by training needs specific to B-20 and training needs specific to other existing and proposed NAS Fallon lands.

Training Considerations Applicable to All NAS Fallon Lands

The availability of airspace over a sparsely populated area and the proximity of the training ranges to the air station make NAS Fallon an ideal, highly cost-effective training facility that must be maintained. NAS Fallon is the primary provider of integrated combat tactical training and large force deployment for Naval units. NAS Fallon, along with the FRTC, is the only Naval air station capable of providing lodging, support, and integrated combat training for an entire CVW. The Navy requires all CVWs to train at NAS Fallon for four weeks as a prerequisite to deployment aboard aircraft carriers or on overseas stations, highlighting the strategic importance of NAS Fallon. During CVW training, which occurs four to six times per year, CVWs routinely require exclusive use of commodore airspace, the portion of the FRTC covered by the TACTS systems that overlie B-17, B-19, and B-20. During air wing training, these three training ranges are unavailable for other training. Loss of one or more training range within commodore airspace would limit training complexity and could prohibit some mission-required air wing training events.

In addition to providing training for CVWs, NAS Fallon is homeport to an FRS detachment and host to other Naval and Department of Defense (DOD) services training. FRS units or other activities desiring use of a training range are scheduled for B-16, which is outside the TACTS tracking area and commodore airspace. This separate airspace allows training to occur independently and concurrently at B-16 while advanced training is occurring at B-20 and within the rest of the commodore airspace. B-16 is used daily under current operating conditions by FRS units and other DOD services for basic and intermediate air-to-ground training.

Training range utilization for 1994 was presented in the proposed Range Safety and Training Public Land Withdrawal EIS. Range utilization for B-16 was approximately 70 percent, while range utilization was 88 percent for B-17, 84 percent for B-19, and 82 percent for B-20 (US Navy 1997c). Range utilization rates are determined by the number of hours used at each training range divided by the total hours available at the training ranges. Available hours are based on time of day (most operations are conducted during the eight-hour work day), training range maintenance schedules, and closure schedules for the training ranges. Weather also is a factor of training range availability. Because of these variables, a training range is not available 100 percent of the time. The annual average does not highlight variances in use, such as when both CVW and FRS training activities are being conducted. During these times, demand for use of the training ranges often exceeds training range availability. Loss of one training range would increase the

amount of training that must be accomplished at the other training ranges. However, the other training ranges are used to such an extent that increasing operations to fully compensate for the loss would not be possible.

The number of sorties associated with the training ranges has increased approximately eight percent since 1994; in 1997, 33,802 sorties were flown at the training ranges (US Navy 1997c). This increase in sorties is largely attributable to the relocation of the TOPGUN mission to NAS Fallon. A sortie is a take-off and landing and can include up to 12 ordnance deliveries. Efficient training per sortie at NAS Fallon is attributable to the proximity of the training ranges to the air station and to each other.

The strategic importance of NAS Fallon has been further defined under the Defense Base Closure and Realignment Act of 1990 (PL 101-510), commonly referred to as BRAC. Base closure decisions have resulted in the realignment of training missions to facilities, such as NAS Fallon, to reduce and consolidate military holdings. This has made NAS Fallon and the FRTC more strategically important for the combat readiness of the Navy. The realignment of TOPGUN and Top Dome to NAS Fallon are examples of BRAC actions and demonstrate the long-term commitment of the Navy to NAS Fallon and its tactical importance to the combat readiness of the military. Loss of the B-20 training range or loss of the continued use of all other NAS Fallon lands would limit the ability of NAS Fallon to meet additional training requirements resulting from BRAC.

Need for Renewal of Withdrawn Lands at B-20

The B-20 training range is both an integral component of the FRTC and a unique training area. As discussed above, B-20 is one of the three training ranges used for the air wing training events described in Section 1.4.1. These events simultaneously utilize B-17, B-19, and B-20 and the associated commodore airspace. This training, which can only be accommodated at NAS Fallon, would be impacted or prohibited with the loss of withdrawn lands at the B-20 training range. In addition, loss of B-20 would increase training requirements at the other NAS Fallon ranges. B-17 and B-19 are utilized to such an extent that increasing training at these ranges likely could not compensate for the loss of B-20. In addition, these training ranges are not able to accommodate all types of training that is performed at B-20.

B-20 is unique in its size and the remoteness of its location. The size of B-20, including both withdrawn and acquired lands, allows for growth on the range. Any future development would be subject to appropriate NEPA documentation. The remoteness of B-20 allows for training that cannot occur in more populated areas because of noise or safety concerns. For instance, B-20 is the only range authorized for 2,000-pound live ordnance training. This type of training is critical because the delivery of this type of live ordnance cannot be simulated; aircraft behave differently when carrying larger weapons and deploying live ordnance.

Since the 2,000-pound live ordnance training is not conducted at any other NAS Fallon training range, the loss of B-20 would adversely affect NAS Fallon's ability to conduct this training. In addition, the remoteness of B-20 has allowed for the realignment of 12 military training routes from the B-16 training range to B-20 to alleviate noise concerns around B-16. The loss of B-20 would result in the need for these military training routes to be realigned back to B-16, which would increase noise over an area that is sensitive to noise. Table 1-4 details the training uses on and the need for the renewal of withdrawn lands at B-20.

Table 1-4
Need for B-20 Withdrawn Lands at NAS Fallon

Land	Use	Need
B-20	Strafing, air-to-ground delivery of practice/inert and live ordnance, and laser ranging and targeting	<ul style="list-style-type: none"> • Provides area for CVW training, which is conducted only at NAS Fallon; CVW training uses training ranges B-17, B-19, and B-20 and associated commodore airspace • Provides area for integrated training for various airborne military services • Only training range authorized for 2,000-pound live ordnance drops; remoteness allows for such training • Covers 21,576 acres (withdrawn portion) and is necessary to meet range training space requirements while ensuring public safety • Size allows room for growth on range • Situated in a unique desert environment • Relieves some of the aircraft activity previously scheduled at B-16, a more populated and noise-sensitive area

Need for Continued Use of Other NAS Fallon Lands

Other Existing NAS Fallon Lands. Other existing NAS Fallon training ranges provide target areas for air-to-ground live or practice/inert ordnance delivery training. The air station provides the aircraft runway system, aircraft maintenance and support facilities, personnel housing and support facilities, and administration facilities in support of Naval training at NAS Fallon. As discussed above, B-17 and B-19 are two of the three training ranges used for the air wing training events that simultaneously utilize B-17, B-19, and B-20 and the associated commodore airspace. In addition, B-17 and the EW threat environment provide areas for advanced strategic combat training.

The B-16 training range is the only training range with airspace outside of commodore airspace. During air wing events, B-16 provides the only available airspace for training to occur independently and concurrently while advanced training is occurring at B-20 and the rest of the FRTC. B-16 is used daily under current operating conditions by fleet replacement squadrons and other DOD services for basic and intermediate air-to-ground training. B-16 is the training range closest to the air station and requires the least travel time and fuel consumption of all the training ranges. Table 1-5 details the uses of and the continued need for the other lands at NAS Fallon.

Table 1-5
Need for Continued Use of Other NAS Fallon Lands

Land	Use	Need
NAS Fallon	Airfield, support and housing facilities, and hazard reduction	<ul style="list-style-type: none"> Airfield and housing are necessary to continue NAS Fallon training mission
B-16	Basic and intermediate air-to-ground delivery of practice/inert bombs and rockets	<ul style="list-style-type: none"> Closest training range to the air station; allows for minimal travel time Only training area with exclusive airspace outside commodore airspace Only training range available for FRS and visiting squadron training during CVW training, which allows NAS Fallon to meet training requirements in the face of limited training range availability Provides area for integrated training for various airborne military services Covers 17,280 acres (27,680 upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
B-17	Strafing, air-to-ground delivery of practice/inert and live ordnance and rockets, close air support, artillery spotting, mortar strikes, small arms training, and no-drop bomb scoring	<ul style="list-style-type: none"> Only training range available to pilots flying through the Dixie Valley EW area, which simulates surface-to-air missile attacks Advanced strategic combat training is conducted in the EW environment and at B-17 Provides area for CVW training, which is only conducted at NAS Fallon Provides area for integrated training for various airborne military services Covers 21,400 acres (54,800 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
B-19	Strafing, air-to-ground delivery of practice/inert and live ordnance and rockets, close air support, artillery spotting, mortar strikes, small arms training, and laser ranging and targeting	<ul style="list-style-type: none"> Provides area for CVW training, which is only conducted at NAS Fallon Provides area for integrated training for various airborne military services Covers 17,332 acres (29,532 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS) and is necessary to meet range training requirements while ensuring public safety
Shoal Site	Combat search and rescue training	<ul style="list-style-type: none"> Will provide area for combat search and rescue training; necessary for realistic combat training (will cover 2,765 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS)
Dixie Valley	Contains electronic warfare (EW) sites	<ul style="list-style-type: none"> The EW system simulates enemy radar detection systems and radar missile sites, creating a simulated warfare threat environment Will provide area for additional EW and TACTs site, visual cueing devices, and ground training integrated with air operations (will cover 68,600 acres upon Congressional approval of Range Safety and Training Public Land Withdrawal EIS)

Other Proposed NAS Fallon Lands. The purpose and need for the Range Safety and Training Public Land Withdrawal are detailed in the Draft EIS released for public review in July 1997 (US Navy 1997c). The Navy needs the lands proposed for withdrawal to maintain and improve realistic operational and strategic combat training at NAS Fallon while providing safety zones around the existing training ranges. The proposed withdrawal lands would provide the land area necessary for the placement of EW and TACTS sites, which allow for simulation of enemy threat environments, counterattacks, and complex targeting scenarios, and the use of portable visual cueing devices. The proposed withdrawal lands also would provide area for the ground training component of integrated air and ground training, including combat search and rescue, Sea-Air-Land (SEAL) unit training, noncombatant evacuation training, and desert rescue training. The FRTC is the only tactical training range complex where the combat search and rescue mission is conducted. In addition, the Navy recently integrated combat search and rescue and intelligence training with North Atlantic Treaty Organization (NATO) allies. The amount of ground training integrated with aircraft support is expected to continue at NAS Fallon, thereby requiring suitable areas for quality training.

1.6.3 Strategic Location and Established Resources

NAS Fallon has the facilities, airspace, equipment, and training ranges, including impact areas, necessary to conduct integrated strategic training for Naval forces. In addition, the remoteness of the air station and B-17, B-19, and B-20 from developed and sparsely habited lands allows NAS Fallon to accommodate CVWs, FRS detachments, and visiting Navy, Air Force, Marine, Army, and NATO allies' units. The training ranges of the FRTC are set up to simulate contingency operations typical of Navy and other military force missions. All of the training ranges are within 35 air miles of NAS Fallon. This allows for integrated range training, promotes fuel efficiency, increases the lifespan of airframes, and reduces travel time risks. In short, proximity of the training ranges minimizes operational costs and maximizes training time, thereby allowing pilots to fly more training missions during their stay at NAS Fallon.

1.6.4 Public Safety Needs

In addition to the tactical military requirements, the continued use of the withdrawn lands is necessary for safety purposes. The primary safety concern addressed by the renewal of withdrawn lands at B-20 is protecting the public from existing unexploded ordnance and from potential unexploded ordnance, as defined by the HAZARD Analysis Mitigation Report (US Navy 1995g). The primary safety concern addressed by the continued use of other NAS Fallon training ranges is also existing and potential unexploded ordnance.

Unexploded Ordinance

B-20 Training Range. The B-20 training range has been in use for over 50 years, supporting a variety of training activities, including air-to-ground bombing and strafing. While the Navy now conducts sweeps of the training ranges at least three

times per year, approximately 10 percent of live ordnance dropped at the training ranges fails to detonate and remains on the training range. As a result, live unexploded ordnance is at the surface and buried at various depths due to impact and wind erosion covering the ordnance. New technology for identifying and removing subsurface ordnance over large areas has been developed by the Naval Research Laboratory, but the technology has not been tested at the NAS Fallon training ranges. Sweeps indicate that ordnance dropped at B-20 is contained within the training range boundaries.

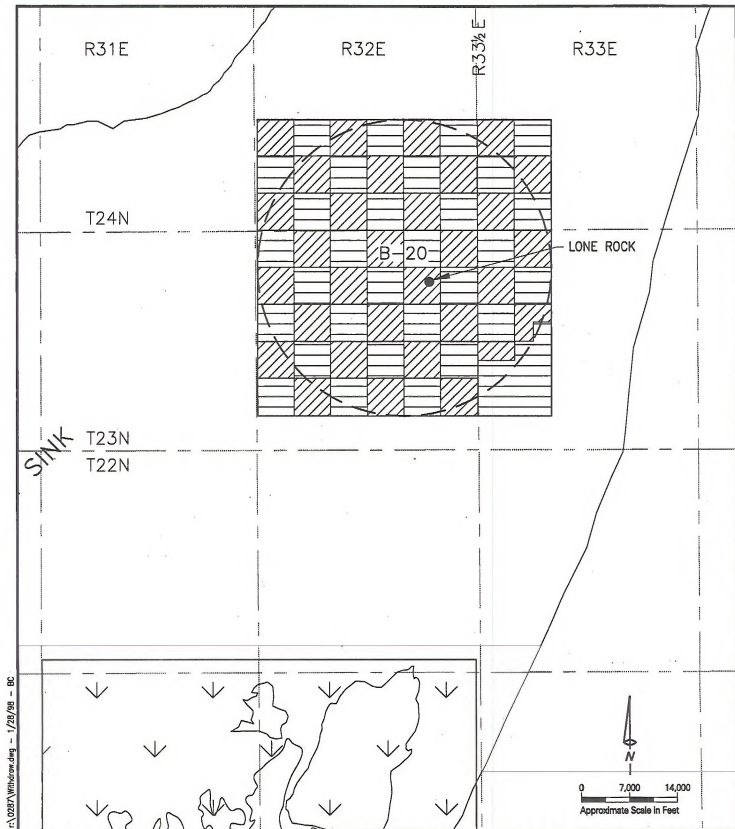
Other NAS Fallon Lands. B-16, B-17, and B-19 have been in use since the 1950s for air-to-ground bombing and contain an unknown amount of subsurface unexploded ordnance. In addition, sweeps of the lands surrounding the training ranges revealed areas of off-range ordnance, and in 1991 approximately 24,464 acres of land around the other training ranges were placed under a BLM emergency closure order. These areas are depicted on Figure 5-12 in Section 5.2.12, Public Health and Safety, and are proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS to minimize the public's risk of exposure to existing off-range ordnance. The land near B-16 contains only practice/inert ordnance, which may or may not have spotting charges or other reactive materials for scoring purposes, but has no live explosive fillers.

Hazard Analysis Mitigation Report

The Naval Air Station Fallon Ranges Hazard Analysis Mitigation Report, September 1995, used the HAZARD methodology to identify land at and around the training ranges necessary to contain the ordnance delivered during training activities (US Navy 1995g).

The HAZARD methodology develops safety footprints showing the total ground area needed to contain potential live and practice/inert ordnance for the training ranges based on operational requirements and parameters. The analysis accounts for specific types of aircraft, types of ordnance, delivery parameters (including dive angle, release altitude, aircraft heading, and airspeed), terrain, and self-imposed operational restrictions. Range composite weapons safety footprints are developed by combining the requirements and parameters for footprints developed for specific targets on each range.

B-20 Training Range. The safety footprint for B-20 encompasses almost the entire existing training range boundary, including both withdrawn and Navy-acquired fee simple lands (US Navy 1995g; US Navy 1995h). The renewal of the B-20 land withdrawal is necessary to allow for the continuation of ordnance delivery training at B-20. The B-20 training range composite weapon safety footprint is presented on Figure 1-5.



The HAZARD methodology develops safety footprints showing the total ground area needed to contain potential live and inert ordnance.

Legend



Stillwater National Wildlife Refuge



Lands withdrawn under PL 99-606



Lands acquired from Southern Pacific Railroad



Hazard Weapon Safety Footprint

B-20 Hazard Footprint

NAS Fallon, Nevada

Other NAS Fallon Lands. The range composite safety footprints for the other NAS Fallon training ranges are presented on Figure 5-11 in Section 5.2.12, Public Health and Safety. The safety footprints for B-16, B-17, and B-19 encompass the majority of training range lands and spill into the proposed Range Safety and Training Public Land Withdrawal area, emphasizing the need for these lands for public protection from existing and potential unexploded ordnance (US Navy 1995g; US Navy 1995h). The HAZARD analysis does not apply to other Navy lands as no air-to-ground training occurs there.

1.7 PUBLIC INVOLVEMENT

Public Scoping

Pursuant to NEPA, a public scoping process for the renewal of withdrawn lands at B-20 was conducted from November 13, 1997, to February 13, 1998. The purpose of scoping was to identify potential environmental issues that would be raised by the renewal of withdrawn lands at B-20. The scoping process for this Draft LEIS included placing notices in the Federal Register and newspapers, conducting public meetings, and using direct mail. Comments received during the scoping period have been considered in determining the issues to be evaluated in the LEIS.

The public was notified of the Navy's intent to prepare this LEIS by a notice of intent (NOI) published in the November 13, 1997, issue of the Federal Register. Legal ads were published in local newspapers, including the Lovelock Review Minor on November 26, 1997, the Lahontan Valley News on November 28 and 29, 1997, and the Reno Gazette on November 30 and December 1, 1997.

Letters announcing public scoping meetings and describing the proposed action were mailed to all public agencies, Native American tribes, public interest groups, and individuals known to have or thought to have an interest in the renewal of the B-20 withdrawal. The scoping letter invited written comments and announced public scoping meetings on December 9, 1997, in Fallon, Nevada, on December 10, 1997, in Lovelock, Nevada, and on December 11, 1997, in Reno, Nevada. The public scoping meetings were preceded by open houses at the same locations. Six individuals attended the public scoping meeting in Fallon, no one attended the public scoping meeting in Lovelock, and nine individuals attended the public scoping meeting in Reno. One person offered oral comments at the Fallon meeting and three people presented comments at the Reno meeting. During the scoping process, two letters were received.

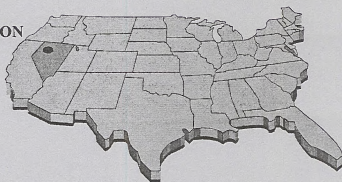
Written and oral comments are summarized in Appendix C, which also contains the NOI, the letter mailed out to the public, and the newspaper advertisements announcing the public scoping hearings.

Draft LEIS

The public is invited to review and comment on the Draft LEIS. A Notice of Availability was published in the Federal Register and public notices were mailed to those on the mailing list announcing the public review period. This public review period provides an opportunity for the public to review the issues addressed in the impact analyses and offer appropriate comments on any aspect of the process. Concerned agencies, organizations, and individuals are invited to send written comments on the Draft LEIS to: Mr. Sam Dennis, Naval Facilities Engineering Command, Engineering Field Activity West, 900 Commodore Drive, San Bruno, California, 94066-0720. Public meetings will be held during the public review period to formally receive verbal and written comments on the Draft LEIS. The meeting locations and times will be announced in local newspapers.

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NAS
FALLON



2.0 PROPOSED ACTION AND ALTERNATIVES

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CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

This chapter presents the proposed action, alternatives considered in detail, and alternatives considered but eliminated. The following six alternatives were considered for this analysis and in compliance with Section 8(a)(1) of PL 99-606 consider only lands identified in Section 1 of PL 99-606:

- Continued Military Need for and Request Renewal of the Land Withdrawal at B-20 (Preferred Alternative);
- Request Partial Renewal of B-20 Land Withdrawal;
- Filing of Notice to Relinquish B-20 Land Withdrawal and Increased Operations at Other NAS Fallon Training Ranges;
- Filing of Notice to Relinquish B-20 Land Withdrawal and Relocating B-20 Training Activities to other Department of Defense Facility or Installation;
- Request Renewal of B-20 Land Withdrawal, Close B-16 Training Range, and Transfer B-16 Operations to B-20, Other NAS Fallon Training Ranges, or Other Regional DOD Facility or Installation; and
- Filing of Notice to Relinquish B-20 Land Withdrawal (No Action Alternative).

A summary of the relative environmental impacts of each alternative considered in detail is provided at the end of this chapter. Detailed environmental consequence analyses and proposed mitigations are presented in Chapter 4.

2.1 PROPOSED ACTION

The Navy proposes to file an application for renewal of the 21,576 acres of land withdrawn at the B-20 training range pursuant to the Military Lands Withdrawal Act of 1986 (Section 1[a]). The act authorized the reservation of the withdrawn land for use by the Navy for testing and aerial bombing, missile firing, and tactical maneuvering and air support (Section 1[a][2][A]) and for other defense-related purposes subject to those requirements indicated in Section 3(f) of the Act (Section 1[a][2][B]). The Navy proposes to renew the withdrawal for continued use as stated in PL 99-606. Implementing the proposed action would not withdraw additional lands or establish additional public use restrictions.

2.2 SITE AND USE DESCRIPTION OF B-20 WITHDRAWN LANDS

The B-20 training range is in the Carson Sink, approximately 17 miles east of Alternate Highway 95 and seven miles north of the Stillwater National Wildlife Refuge (Figure 1-2).

The training range has been operational since the early 1940s and is composed of 41,006 acres of withdrawn and acquired lands (Figure 1-1). Of the total acreage, approximately 19,430 acres were acquired by condemnation of property owned by the Southern Pacific Railroad Company. The remaining 21,576 acres were withdrawn in 1986 by the Military Lands Withdrawal Act (PL 99-606) for a term of 15 years and are subject to renewal. The withdrawn lands and acquired lands form a checkerboard pattern resulting from a nineteenth century Congressional land grant to railroad companies throughout the west that was intended to promote the development of towns along the new and growing railroad lines.

B-20 is critical to the FRTC and training operations within commodore air space. It is the only NAS Fallon training range that is remote, has room for growth on the range, and allows for delivery of 2,000-pound live ordnance. Many aircraft operations formerly undertaken at B-16, located in a more populated and noise-sensitive area, have been moved to the more isolated B-20 training range. The B-20 training range is used for air-to-ground bombing, strafing, and laser targeting. The training range contains one mock submarine, two strafing banners, two bull's-eyes, one laser bull's-eye target, one lighted helicopter pad, run-in lighting, two spotting towers, and electronic scoring with the WISS. B-20 accommodates all training scenarios and types of use performed at NAS Fallon except for EW site placement. No other training range at NAS Fallon has this extent of capabilities.

2.3 ALTERNATIVES FORMULATION PROCESS

In developing potential alternatives, the Navy coordinated a number of actions, including the following:

- Assessed the current and future training and operational requirements of NAS Fallon;

- Established a Navy interdisciplinary team of environmental planners, training range operators, natural resource specialists, ordnance experts, flight commanders, and real estate specialists;
- Consulted with land managers of the BLM, BUREC, DOE, and other federal, state, and local agencies and organizations with an interest in the action; and
- Conducted public scoping.

From this process, five action alternatives, in addition to the No Action Alternative, were developed. To determine if the alternatives were reasonable and would meet the purpose of and need for the proposed action, evaluation criteria were established. In order for an alternative to be considered in detail, it had to fulfill the following criteria:

- Preserve the training mission of NAS Fallon, as mandated for national defense;
- Maximize use of the existing facilities and resources at NAS Fallon;
- Maintain state-of-the-art realistic and flexible military tactical air and ground combat training operations;
- Allow for the diversity and most efficient use of training time while minimizing fuel consumption and wear on aircraft airframes; and
- Protect the public from potential safety hazards related to air-to-air combat tactical training, evasive air-to-ground combat training, and ordnance delivery training.

2.4 ALTERNATIVES CONSIDERED IN DETAIL

One action alternative meets the mission requirements, including training and safety requirements, of NAS Fallon and is considered in detail. In accordance with NEPA, a No Action Alternative also is evaluated in detail.

2.4.1 Preferred Alternative: Continued Military Need for and Request Renewal of the Land Withdrawal at B-20

Under the Preferred Alternative, the Navy would apply for a renewal of the 21,576-acre withdrawal at B-20, as outlined by PL 99-606. The Navy would continue to use B-20 for training operations consistent with those currently conducted and as specified in Section 1(a)(2)(A) and (B) of PL 99-606. Section 2.2 describes the types of operations that currently take place at the B-20 training range. This alternative would not withdraw additional lands, establish additional public use restrictions, or increase aircraft operations.

In accordance with PL 99-606, three years prior to the termination of the land withdrawals established by PL 99-606, the Secretary [of the Navy] must advise the Secretary of the Interior if NAS Fallon has a continuing military need for the 21,576 acres withdrawn at B-20 that will extend past the withdrawal termination date of November 6, 2001 (Section 8[a]1). Subsequently, by November 6, 1998, the Secretary of the Navy will so advise the Secretary of the Interior and will subsequently file an application for a renewal of the land withdrawal at B-20 in accordance with Department of the Interior regulations and procedures applicable to the renewal of land withdrawals for military uses. The Navy would prefer a withdrawal with an indefinite time period, but Congress will determine the length of the withdrawal.

2.4.2 No Action Alternative

Under the No Action Alternative, the Navy would not apply for a renewal of the 21,576 acres of withdrawn land at B-20. By November 6, 1998, the Navy would advise the Secretary of the Interior of its intent to relinquish the withdrawn lands at B-20 (Section 8[a][1]). Navy training activities at B-20 would cease when the withdrawal expires on November 6, 2001.

Prior to submitting notice, the Secretary of Defense, acting through the Navy, would prepare a written determination concerning the extent to which the lands to be relinquished are contaminated with toxics, explosives, and hazardous materials (Section 8[b][1]). If any withdrawn land at B-20 is contaminated and the Secretary of the Interior, in consultation with the Secretary of the Navy, decides that decontamination is practically and economically feasible, the Secretary of the Navy would decontaminate the land to the extent that funds were appropriated for such a purpose (Section 8[c]). Upon decontamination, the land could be opened to operation of some or all public land laws, as managed by the Secretary of the Interior.

If the Secretary of the Interior, after consulting with the Secretary of the Navy, concludes that decontamination is not practically or economically feasible or that the land cannot be decontaminated sufficiently to be opened for operation of some or all of the public land laws or if Congress does not appropriate a sufficient amount of funds for decontaminating the lands, the Secretary of the Interior would not be required to accept the land for relinquishment (Section 8[d]).

On November 6, 2001, the B-20 withdrawal would expire. Relinquishing 21,576 acres of withdrawn land at B-20 would result in the loss of any practical use of the remaining 19,430 acres at B-20 due to the checkerboard ownership. While this alternative does not fulfill evaluation criteria for training requirements, inclusion of the No Action Alternative is required by NEPA.

If the withdrawn land at B-20 is contaminated to an extent that prevents opening the land to the public and if the Secretary of the Interior declines to accept

jurisdiction over the land at the expiration of the withdrawal, the Secretary of the Navy must take appropriate steps to warn the public of the contaminated state of the B-20 land and of any risks associated with entry onto B-20 land. In addition, the Navy may not undertake any activities on B-20 land except in connection with decontamination (PL 99-606, Section 8[e]). If the land were sufficiently decontaminated, the Department of the Interior would assume administration of the 21,576 acres at B-20. The BUREC would retain existing rights under their withdrawal of public lands for the Newlands Reclamation Project.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED

Four alternatives were eliminated from detailed consideration because they did not fulfill one or more of the evaluation criteria. Each of these alternatives is presented below, along with a discussion on why they are not considered reasonable.

- *Request Partial Renewal of B-20 Land Withdrawal:* This alternative would involve a partial renewal of the original 21,576 acres withdrawn under PL 99-606. A portion of the original withdrawal would be renewed, while the remaining portion would be relinquished. A partial renewal would not be a reasonable alternative because it would adversely affect the training mission of NAS Fallon. As shown on Figure 1-5, the HAZARD weapon safety footprint encompasses the majority of the B-20 training range. A partial withdrawal would result in NAS Fallon's inability to continue to use B-20 for existing ordnance delivery training. Relinquishing any withdrawn land would result in lost use of surrounding acquired land given the checkerboard pattern of withdrawn and acquired lands. Since the 2,000-pound live ordnance delivery training conducted at B-20 is not conducted at any other NAS Fallon training range, this would adversely affect NAS Fallon's training mission. Therefore, this alternative was eliminated from further consideration.
- *Filing of Notice to Relinquish B-20 Land Withdrawal and Increased Operations at Other NAS Fallon Training Ranges:* Relinquishing 21,576 acres of withdrawn land at B-20 would result in the loss of any practical use of the remaining 19,430 acres at B-20 acquired by the Navy due to the checkerboard ownership pattern of the lands. In order to meet training requirements, described in Section 1.4 of the LEIS, this loss would have to be compensated for in some manner where possible, such as increasing operations at other NAS Fallon training ranges. The training ranges are used to such an extent that increasing operations at training ranges B-17 and B-19 to a level necessary to compensate for loss of B-20 would not be possible. In addition, some of the training conducted on B-20 cannot be conducted at any of the other training ranges. B-20 is the only training range that is remote, has room for growth on the training range, and allows for delivery of 2,000-pound live ordnance. Therefore, without replacing B-20 in some fashion, NAS Fallon would no longer be able to fulfill its training mission. The loss of B-20 also would affect

training at B-16 in that some operations have been transferred from B-16 to B-20 to reduce noise impacts in the Fallon area. This training would need to be realigned back to B-16, which would increase noise over an area that is sensitive to noise. Consequently, this alternative was eliminated from further consideration.

- *Filing of Notice to Relinquish B-20 Land Withdrawal and Relocating B-20 Training Activities to Other Department of Defense Facility or Installation:* This alternative would relocate the B-20 training activities to another DOD facility or installation. Use of other regional training facilities to accommodate B-20 training activities would not adequately fulfill the various training missions at NAS Fallon. The FRTC is the primary provider of integrated combat tactical training and large force deployment for Naval units. Training conducted at B-20 is integrated with training conducted at the other training ranges in the FRTC and cannot be separated out. Relocating training activities conducted on one training range would degrade the overall training mission at NAS Fallon.

The FRTC as a whole has the airspace, remoteness, training systems, and training ranges, including impact areas, necessary to conduct the mandated training operations. No other regional DOD facility has the available training range and airspace capacity and availability to support CVW training or to accommodate the intensity and frequency of the various training missions at NAS Fallon. For example, Nellis Air Force Range (NAFR), the closest DOD range to NAS Fallon, is available for scheduling 100 hours per week. In 1995, the range was used an average of 86 hours per week for a utilization rate of 86 percent. The remaining scheduled but unused time at the range can be attributed to cancellations of range availability due to unscheduled maintenance, operational constraints, or weather constraints. Considering these factors, Nellis ranges are operating at near 100 percent capacity. With NAFR near 100 percent saturated, there is no unused capacity to absorb NAS Fallon aircraft training operations onto Nellis Air Force Range (Garner 1998). Therefore, combat training time for NAS Fallon at Nellis Air Force Range would not be available and could not be guaranteed, preventing NAS Fallon from fulfilling its training mission.

In addition, NAFR is a testing and evaluation (T&E) facility that focuses on research and development operations, while the ranges at NAS Fallon are operations and maintenance (O&M) ranges that focus on combat training. While some of NAS Fallon's training may be conducted on T&E ranges, it is not a priority within the T&E mission, and the availability of combat training systems, targets, and resources is severely limited for O&M training.

The use of another regional training range to accomplish training activities conducted at B-20 would increase en route travel time, thereby decreasing

actual training time and the life of the airframes. Using other regional training ranges would not be cost-effective because additional fuel would be required for transit to the training ranges.

The use of other regional training ranges would not eliminate impacts of training activities but would transfer impacts from B-20 to the new training location. Because B-20 is nearly 20 miles from the nearest sensitive receptor, has no sensitive biological resources, and contains few valued natural resources, impacts from training at another regional training range would likely be greater than impacts from training at B-20. For these reasons, this alternative was eliminated from further consideration.

- *Request Renewal of B-20 Land Withdrawal, Close B-16 Training Range, and Transfer B-16 Operations to B-20, Other NAS Fallon Training Ranges, or Other Regional DOD Facility or Installation:* This alternative would close the B-16 training range and would relocate B-16 training operations to B-20, to other NAS Fallon training ranges, or to another regional DOD facility or installation.

Close B-16 and Transfer Operations to B-20 Training Range. This alternative would close the B-16 training range and would transfer operations to B-20. Closing B-16 and transferring operations to B-20 is not a reasonable option because it would adversely affect the training mission of NAS Fallon. B-20 is currently used to such an extent that increasing operations at B-20 to the level necessary to accommodate for B-16 training would not be possible. Operations that could be transferred from B-16 to B-20, such as military training routes, have already been transferred. The remaining training performed at B-16 is not compatible with current B-20 training requirements. B-20 is located within the commodore airspace used for advanced training operations, such as major air wing and joint service training events. B-16 is under completely separate airspace from commodore airspace and allows training to occur independently and concurrently at B-16 while advanced training is occurring at B-20 and the rest of the FRTC. B-16 is used daily under current operating conditions by fleet replacement squadrons and other DOD services for basic and intermediate air-to-ground training. Realigning training from B-16 to B-20 would greatly limit the availability for this training.

Close B-16 and Transfer Operations to Other NAS Fallon Training Ranges. Closing B-16 and transferring operations to other NAS Fallon training ranges also is not a reasonable option because it would adversely affect the training mission of NAS Fallon. As discussed above, transferring all training requirements from one training range (B-16) to other NAS Fallon training ranges is not feasible. The other training ranges are used to such an extent that increasing operations at the other training ranges to a level necessary to compensate for loss of B-16 would not be possible. Operations that could be

transferred from B-16 (realignment of 12 military training routes to B-20) have already been transferred. The remaining training performed at B-16 would not be compatible with the use of the other NAS Fallon training ranges, which are under commodore airspace and used concurrently during air wing training and joint service training events. B-16 is the only range at NAS Fallon that is not used during a major air wing event and therefore is the only range available for other training events during these times. Closure of B-16 would limit other training when air wings were training at NAS Fallon.

If it were possible to relocate training from B-16 to other training ranges at NAS Fallon, it would adversely affect the long-term viability and strategic importance of the FRTC and NAS Fallon, as defined in part by BRAC. Three rounds of base closure and realignment decisions have resulted in the closure of many western military facilities, resulting in the realignment of training missions to facilities, such as NAS Fallon, that were not slated for closure.

In addition, the airspace over B-16 is used by air training units from NAS Lemoore, California, NAS Cecil Field, Florida, NAS Whidbey Island, Washington, Marine Corps Air Station (MCAS) Yuma, Arizona, Nellis Air Force Base (AFB), Nevada, MCAS Miramar, California, Mt. Home AFB, Idaho, Barry M. Goldwater AFB, Arizona, and Hill AFB, Utah. Closing B-16 without replacing it with a new dedicated range would affect training operations throughout the DOD.

Close B-16 and Transfer Operations to Other DOD Facility or Installation.

Closing B-16 and transferring B-16 training operations would adversely affect the training mission of NAS Fallon in that the basic and intermediate training and training by other forces performed at B-16 throughout the entire 52 weeks per year could not be guaranteed at other regional ranges. As described in detail above, Nellis Air Force Range, the closest range to NAS Fallon, operates near capacity and could not absorb the training now accomplished at B-16. Relocating this training would result in the same adverse effects to training as described for relocating B-20 to another regional facility, such as increased en route travel time, increased travel risks, decreased actual training time, and decreased life of the airframes. Using other regional training ranges would not be cost-effective because additional fuel would be required for transit to the training ranges.

2.6 SUMMARY OF ENVIRONMENTAL IMPACTS FOR EACH ALTERNATIVE

This section provides an overview of the Chapter 4 environmental impact analysis and mitigation measures. Table 2-1 summarizes the impacts along with proposed mitigation measures. Chapter 4 provides details of the rationale and reasoning for the impacts and mitigation measures.

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
 (continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Land Use	No impacts. The existing land use of B-20 is as a weapons delivery target for military training. This land use would continue if the withdrawal was renewed, remaining in compliance with BLM management plan (page 4-5).	No mitigation would be required.	No impacts. The change in land use status would be compatible with existing land use plans, which recognize the site as federally controlled (page 4-5).	No mitigation would be required.
Biological Resources	<p>No significant impacts. No special-status species or sensitive habitats have been documented within B-20. B-20 would be used as it has in previous years, resulting in no significant impacts to nonsensitive species. Impacts to nonsensitive resources from continuing operations may result in destruction of habitat, contamination, or direct mortality. None of these impacts are expected to be significant at B-20. The habitats and lands within B-20 are already disturbed from ordnance and weapons training from previous decades. With a lack of an established vegetative base and complex food chain, at this time B-20 does not support a diverse or unique range of biological resources.</p> <p>Studies on soils at other DOD desert training ranges in Nevada and California show that little to no explosives contamination occurs from ordnance delivery operations. Sampling of water in ponded craters at B-20 shows low to nondetectable levels of inorganic (e.g., metals), soluble, and volatile organic compounds beyond naturally occurring background levels. Direct mortality of wildlife species from Navy training activities has not been documented and is not believed to be a common or significant occurrence.</p> <p>Noise levels from continued operations would not significantly impact nesting, foraging, and resting activities at the Fallon and Stillwater National Wildlife Refuges and would not impact migration patterns or bird populations. Likewise, operational noise would not significantly impact regional wildlife (page 4-6).</p>	No mitigation would be required.	<p>No significant impacts. Although uncertain, vegetative recovery may be possible if ordnance activities ended at B-20. If vegetation expansion and diversification occurs, microhabitats could develop that would better support existing wildlife and new transient species. Although populations of such species may not significantly increase in an arid environment such as the one at B-20, some of these populations may stabilize and become more robust.</p> <p>During the decontamination process, much of the existing habitat could be destroyed. This would be a short-term impact, as natural processes would eventually reclaim the landscape.</p> <p>Public use of the area would have negligible to minor impacts on biological resources. The greatest effect would be from ORV use, which could destroy vegetation and startle wildlife (page 4-9).</p>	No mitigation would be required.

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
(continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Geology and Soils	<p>No significant impacts. Continued use of the training range would result in the continued spalling and erosion of Lone Rock. Erosion is common in this region and rocks of similar composition, texture, and age are widespread in the Stillwater Range; therefore, while this is an adverse impact, it is not considered geologically significant.</p> <p>Training activities would continue to create new craters and disturb soil conditions, having a continued adverse impact on soil conditions. This impact is not considered significant because the surface area is already highly disturbed with craters, and the affected soils have no agricultural value, wildlife habitat, or recreational value.</p> <p>Soil sampling performed at other long-term desert bombing ranges in California and Nevada found low to nondetectable levels of explosive residues in soils. Levels at B-20 are expected to be similar to or less than these results.</p> <p>No oil, gas, or geothermal resources are extracted at B-20; therefore, no impacts to these resources would occur (page 4-110).</p>	No mitigation would be required.	<p>Significant but mitigable impacts. The decontamination process would require extensive earth-moving, disturbing much of the surface to subsurface area of the training range. These activities would increase erosion and interrupt the natural deposition and shifting of sand. Once decontamination is complete, natural processes would gradually reclaim the disturbed surface, making this a temporary impact.</p> <p>Significant but mitigable impacts could result from wind erosion distributing soil onto adjacent lands. Surrounding lands would be impacted as the disturbed soils are subjected to wind erosion, which could carry finer particles to other regions before settling.</p> <p>Reverting B-20 to the public domain would not result in significant impacts from increased public use (page 4-11).</p>	Construct wind erosion barriers around the decontamination areas and cover soils to prevent transport of sediments onto adjacent public lands.

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
(continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Water Resources	<p>No significant impacts. Runoff from B-20 could potentially enter publicly accessible land areas within the Carson Sink, but would not result in a significant impact on nearby watersheds or the public. Water sampling at B-20 indicates that Navy actions have not resulted in inorganic (e.g., metals), soluble, or volatile organic compound contamination. Soil sampling performed at other long-term desert bombing ranges in California and Nevada found low to nondetectable levels of explosive residues in soils.</p> <p>The Preferred Alternative would not have significant impacts on regional ground water hydrology or use. There are no water developments at B-20 and surface and ground water are not used for human consumption, irrigation, or any other productive uses.</p> <p>Surface and subsurface water in the region flows northeastward, away from Fallon towards B-20. Surface and subsurface water tends to flow from the Fallon and Stillwater National Wildlife Refuges towards B-20 and the Carson Sink. Only during infrequent high water years does the Carson Sink flood to such a degree as to spill over into the Stillwater National Wildlife Refuge. During such flooding events, any chemical debris from B-20 is diluted to such a degree as to be undetectable and poses no threat to water quality. Therefore, the Preferred Alternative would not affect the water levels and would not expose people to hazardous materials in areas subject to inundation (page 4-12).</p>	No mitigation would be required.	No significant impacts. Potential public uses would not affect surface or ground water resources. During decontamination procedures, munition residues, if present, could become distributed in the basin during flooding events. As noted for the Preferred Alternative, sampling shows low or nondetectable levels of contaminants (page 4-14).	No mitigation would be required.

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
 (continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Cultural Resources	<p>No impacts. The SHPO and ACHP accept that most of B-20 is a high impact area and that it is not likely that any historic or prehistoric archeological properties have survived in the target areas with sufficient integrity to qualify for inclusion in the National Register of Historic Places.</p> <p>Because no historic architectural resources exist at B-20, there will be no impact from implementing the Preferred Alternative.</p> <p>No impacts to properties of traditional cultural significance would result from the Preferred Alternative. As part of the public outreach program, the Navy held meetings with the Tribal Council and spiritual leaders of the Walker River Paiute Tribe and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony to determine if Lone Rock is a property of traditional cultural significance for the Paiute community. Both tribes assessed traditional and current cultural values of the site and found that Lone Rock no longer has traditional or cultural value to the Paiute community (page 4-15).</p>	No mitigation would be required.	<p>No significant impacts. Implementing the No Action Alternative would cease bombing activities on B-20. Decontamination activities may result in adverse effects to unidentified subsurface resources.</p> <p>Because no historic architectural resources exist at B-20, there will be no impacts as a result of the implementation of the No Action Alternative.</p> <p>Implementation of the No Action Alternative would have no impact on properties of traditional cultural significance (page 4-15).</p>	<p>Implement mitigation measures to decontamination activities as required under NAS Fallon's CRMP and Programmatic Agreement.</p>

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
 (continued)

Resource Areas	Preferred Alternative	No Action Alternative	
	Impacts	Impacts	Mitigation
Environmental Justice & Socioeconomics	No impacts on socioeconomic conditions. There would be no jobs created or lost as a direct result of the action, nor would there be a loss or gain in income generation or business volume. The proposed action would allow NAS Fallon to continue to fulfill its mission and possibly increase in military importance as other military bases are realigned or closed under BRAC actions. This could result in increased regional military expenditures and job creation, representing a beneficial impact.	No significant impacts. Once ordnance delivery training ceases at B-20, the mission of NAS Fallon would not be realized, potentially leading to fewer training activities at the station. The result would be direct and indirect adverse impacts on jobs, income generation, and local business volume.	No mitigation would be required.
	The Preferred Alternative would not disproportionately affect the health or economic opportunities of members of the Walker River Indian Tribe, Lovelock Paiute Tribe, or the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony because the action does not involve Native American lands and because Navy operations near the lands would not change from existing conditions.	If decontamination procedures are adopted, there would be short-term beneficial socioeconomic impacts from employment creation, increased demands for goods and services, and regional spending. Opening B-20 to public land uses would have a negligible to minor beneficial economic impact from increased recreational spending and possible job creation from resource extraction.	No mitigation would be required.
	The current Paiute community does not consider Lone Rock a property of traditional cultural significance, and the continued military use of the site would not impact the cultural identity of the community. Therefore, continued use would not disproportionately impact members of the Paiute community (page 4-16).	Minority and low-income populations would not be disproportionately impacted by this alternative, because all segments of the population are expected to be affected equally (page 4-18).	

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
(continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Air Quality	No impacts. B-20 is located in an unclassified/attainment area for all of the criteria pollutants; therefore, no Clean Air Act conformity determination is required for this action. No new air pollutant-generating activities are proposed under the Preferred Alternative, so no increase in air emissions or violation of federal or state ambient air quality standards would occur (page 4-19).	No mitigation would be required.	No significant impacts. The No Action Alternative would have a short-term beneficial impact to ambient air quality during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. Minor short-term effects to air quality would result from earth-moving activities during decontamination of the training range. Opening the land to public use would result in effects to air quality from recreational activities. Such activities would likely be minimal and would not result in violations of federal or state air quality standards (page 4-19).	No mitigation would be required.
Noise	No impacts. Military training operations would continue as before, producing similar noise patterns. Based on noise studies, lands adjacent to B-20 may experience noise levels of 65 dB during ordnance delivery. This is an acceptable and compatible level with surrounding lands (page 4-19).	No mitigation would be required.	No impacts. The No Action Alternative would have a short-term beneficial impact to ambient noise levels during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. While this would be a beneficial impact, the magnitude would be minor because of the remote nature of the training range and because there are no sensitive receptors affected by current operations. Operating large earth-moving equipment would have short-term, localized, and nonsignificant impacts to noise levels. Opening the land to public use would have minor to negligible effects on noise conditions. Noise produced during decontamination activities and public use would not exceed existing levels, therefore they are considered to be a minor beneficial impact (page 4-20).	No mitigation would be required.

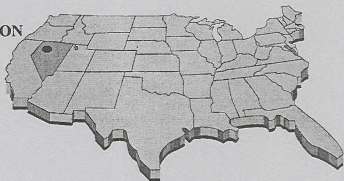
Table 2-1
Overview of Environmental Consequences and Mitigation Measures
 (continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Mineral Resources	No significant impacts. There are no mining claims or operational mining sites on or adjacent to B-20; however, continued Navy use would continue to restrict prospecting. This restriction is not considered a significant impact because no locatable minerals have been identified within B-20 and geologic evidence indicates that it is highly unlikely that any locatable lode minerals exist within the B-20 training range. There are no active nonmetallic mineral leases within B-20 (page 4-21).	No mitigation would be required.	No significant impacts. During the decontamination process, surface and near-surface mineral deposits, such as sodium salts, would be disturbed and potentially removed. Given the limited availability and low potential for economically extracting such resources, and given the availability of more regionally productive sites, this impact is not considered significant. If the lands are opened for public prospecting, there is a low potential for establishing valid claims; this opportunity would represent a beneficial impact. Mining activity may require additional regulations to protect prospectors from deep subsurface ordnance that may remain undetected during decontamination procedures (page 4-21).	No mitigation would be required.
Livestock & Wild Horse Management	No impacts. Cattle are not permitted to graze on B-20 and the training range is fenced, which keeps out wild horses. There are no grazing allotments, wild horse management areas, or water developments on or near B-20 (page 4-22).	No mitigation would be required.	No impacts. While the land is under Navy control and during decontamination procedures, B-20 would remain restricted and no grazing or wild horses would be permitted on the lands. Once decontamination is finished, the land may be opened for grazing. The playa area, however, is not suitable for grazing, and the few areas that provide vegetation (less than 200 acres) have a poor range production value (page 4-22).	No mitigation would be required.

Table 2-1
Overview of Environmental Consequences and Mitigation Measures
 (continued)

Resource Areas	Preferred Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Recreation and Visual Resources	<p>No significant impacts. No public access is allowed on B-20. The Preferred Alternative would not introduce any new restrictions on recreational activities or alter existing recreational values, such as noise levels and visual stimuli.</p> <p>Lone Rock is the dominant visual natural feature on B-20. Any continued military use would continue to erode the rock surface, along with increasing the number of craters in the playa. Manmade features would remain at the site and new structures could possibly be added in the future. This impact is not significant because viewer sensitivity is low, the visual character is not outstanding, and the training range is remote and physically removed from sensitive viewpoints, such as highways and other developments (page 4-22).</p>	No mitigation would be required.	<p>No significant impacts. Recreational values would increase under the No Action Alternative because the cessation of ordnance delivery training would reduce noise levels in Stillwater Range, Humboldt Range, and the Fallon and Stillwater National Wildlife Refuges. Current noise levels, however, are considered compatible with recreational activities. This effect would not directly increase recreational opportunities and is considered to be a minor long-term beneficial effect.</p> <p>The decontamination process would require large amounts of earth-moving, particularly within the vicinity of the target areas. This short-term adverse visual impact is not considered significant because of the low viewer sensitivity in the area (page 4-23).</p>	No mitigation would be required.
Public Health and Safety	<p>No significant impacts. The site would remain fenced and posted, and the Navy would retain the right to restrict access to ensure the public is protected from military activities and on-site hazards, including unexploded ordnance. HAZARD analysis of B-20 determined that the safety footprint is within the existing boundary; therefore, there would not be any increased risk to public users of adjacent lands (page 4-24).</p>	No mitigation would be required.	<p>Significant but mitigable impacts. If decontamination is adopted and the land opened to some or all public laws, there could remain a hazard from deeply buried ordnance. Any public use that disturbs the subsurface would pose a safety risk.</p> <p>Closure of the range would have some public safety benefits in that ordnance drops would cease. This effect would be negligible because the current public risk is minimal (page 4-25).</p>	<p>Restrict public subsurface activity at all or part of the training range lands. Allow limited subsurface activity pending additional ordnance surveys, if feasible.</p>
Transportation	<p>No significant impacts. Roadways and rail lines would not be affected by the action, and air traffic would be managed as under existing conditions (page 4-25).</p>	No mitigation would be required.	<p>No impacts. Roadways and rail lines would not be affected. There would be a beneficial impact to civilian aircraft if the restricted airspace above B-20 also is relinquished. This would allow unimpeded transit over B-20. Civilians currently may transit the airspace if it is not in use for military activities; therefore, this is not a significant change to regional airspace management (page 4-25).</p>	No mitigation would be required.

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3.0 AFFECTED ENVIRONMENT

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CHAPTER 3

AFFECTED ENVIRONMENT

This chapter provides a description of the existing environmental and socioeconomic conditions related to B-20. This information is used in Chapter 4 as the baseline for identifying and evaluating environmental impacts at B-20 resulting from the Preferred Alternative, the renewal of the B-20 land withdrawal, and the No Action Alternative, the relinquishment of the B-20 land withdrawal.

Chapter 3 focuses on those resources potentially affected by the proposed action and on topics that have received public concern. Those resources include land use, biological resources, geology and soils, water resources, cultural resources, environmental justice and socioeconomics, air quality, noise, mineral resources, livestock and wild horse management, recreation and visual resources, public health and safety, and transportation.

3.1 LAND USE

This section describes land uses at B-20, surrounding land uses, and county land use designations. The region of influence applicable to the land use section is north-central Churchill County and south-central Pershing County.

B-20 is the northernmost NAS Fallon training range, located 20 miles south of Lovelock, 35 miles northeast of Fallon, and 90 miles northeast of Carson City. The nearest private residence to B-20 is over 18 miles away. B-20 lies in the northeastern portion of the Carson Sink, a broad elongated valley bordered by the West Humboldt Mountain Range to the north and west and the Stillwater Mountain Range to the east. The valley floor at and around B-20 is part of a dry lakebed, or playa, characterized by an almost complete lack of relief. Its surface slopes gently to the south and southwest. The B-20 center target contains numerous craters from bombing that has occurred at the training range.

B-20 has one topographical feature, Lone Rock, which is just southeast of the center of B-20 on the land acquired from the Southern Pacific Railroad Company. Lone Rock rises about 160 feet above the rest of the training range, and its volcanic bedrock is exposed from ordnance detonations. The base of Lone Rock has gentler slopes consisting of rock fragments. Several sand dunes have formed at the base of Lone Rock and other dunes extend northeasterly for approximately one-half mile. Due to the high salt concentration of playa soils, B-20 does not contain vegetation except in the dune areas.

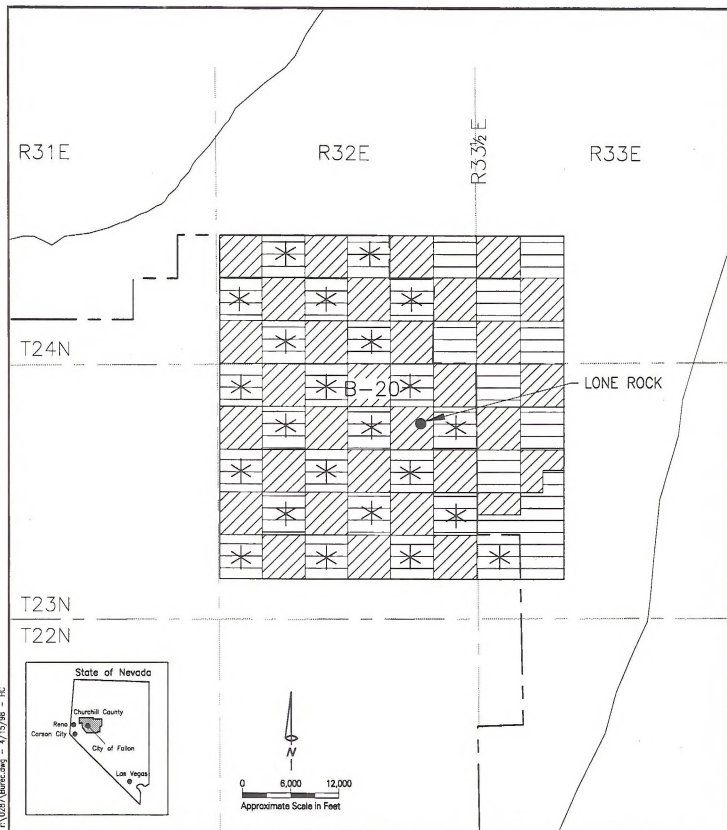
3.1.1 B-20 Land Uses

Military training operations at B-20 have occurred since the early 1940s. In 1986 PL 99-606 authorized the B-20 land withdrawal of approximately 21,576 acres in north-central Churchill County. This withdrawn land, in conjunction with the approximately 19,430 acres acquired by the Navy in 1982, forms the B-20 training range as it exists today. The withdrawn and Navy-acquired lands form a checkerboard ownership pattern as shown in Figure 1-1.

B-20 is used exclusively for military training including air-to-ground bombing, strafing, and laser targeting. The training range contains one mock submarine, two strafing banners, two bull's-eyes, one laser bull's-eye target, one lighted helicopter pad, run-in lighting, two spotting towers, and electronic scoring. The training range provides a target area for high explosive live ordnance up to 2,000 pounds and for practice/inert ordnance. Surface ordnance is cleared after training operations; however, operations have resulted in a high potential for the presence of subsurface ordnance. For this reason, B-20 is fenced and public access is restricted. There is no mining, grazing, recreation, or oil, gas, or geothermal production on the training range.

3.1.2 Surrounding Land Uses

At the time of the original B-20 withdrawal by the Navy, the lands in and around the south and west portion of the training range had been withdrawn by the BUREC as part of the Newlands Reclamation Project (Figure 3-1). The military withdrawal at B-20 includes some of these lands withdrawn by BUREC for flooding, overflow, and seepage purposes. The Navy withdrawal does not affect the BUREC withdrawal. Consistent with the checkerboard pattern of acquired and withdrawn land at B-20, every other square mile of land north, northeast, and northwest of B-20 is private land. The BLM or BUREC federally administers the remaining land around B-20. Lands administered by the BLM are located to the north and east of the range in a checkerboard pattern with private lands and are managed for multiple public use. Figure 3-2 depicts the land administration patterns in the areas surrounding B-20.



The Navy withdrawal does not affect the BUREC withdrawal.

Legend



Lands withdrawn for the Navy under PL 99-606



Lands acquired from Southern Pacific Railroad Co.



Lands withdrawn for the BUREC Newlands project



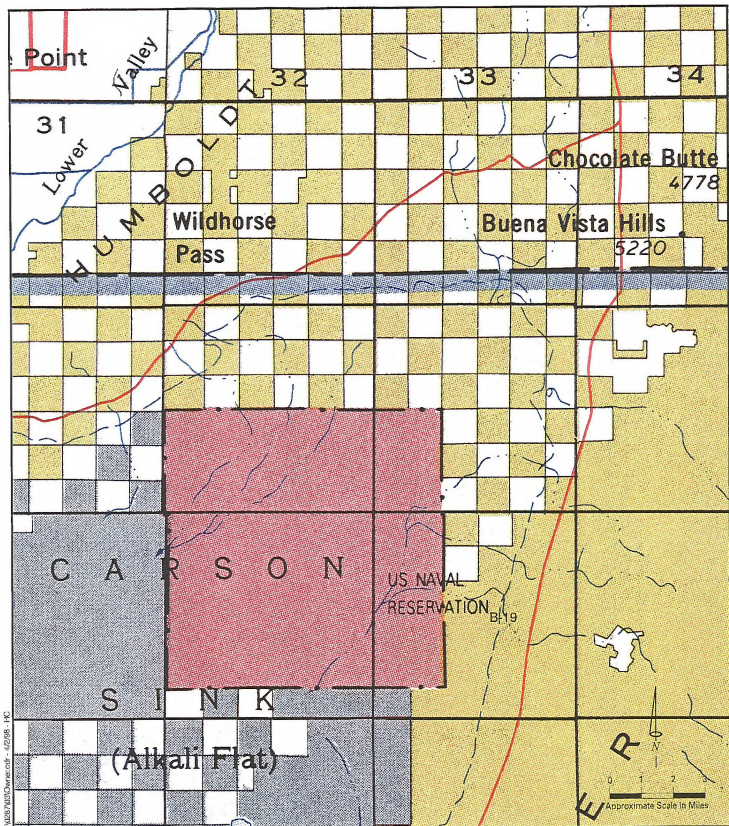
Newlands project boundary

Source: Tetra Tech 1997

Withdrawn Navy and BUREC Lands

NAS Fallon, Nevada

Figure 3-1



Lands around B-20 include BLM-administered lands, BUREC-administered lands and private lands.

Legend

- BUREC - administered lands
- Private lands
- BLM - administered lands
- B-20 lands

Land Status
NAS Fallon, Nevada

Figure 3-2

The Churchill County Master Plan designates the lands around B-20 as public and open. The public designation is intended primarily for facilities owned and operated by government agencies, while the open designation is intended primarily for outdoor recreation, agriculture, watershed protection, and sensitive environmental areas.

The county has zoned the private land around B-20 as rural resources (R-R). Land zoned R-R has a minimum area requirement of 20 acres. The R-R classification applies to all unincorporated county lands not otherwise classified and is intended to "protect and enhance all natural resources, including historical and archeological sites."

3.2 BIOLOGICAL RESOURCES

Biological resources discussed in this section include vegetation, wildlife, sensitive species, and sensitive habitats at B-20. The region of influence for biological resources is B-20 and the surrounding areas. Included in the region of influence are the Stillwater National Wildlife Refuge, Fallon National Wildlife Refuge, and Stillwater Wildlife Management Area, located approximately 10 miles to the south and southeast of B-20 (Figure 1-3).

3.2.1 Vegetation

Ecological field investigations were conducted between the summers of 1996 and 1997 at NAS Fallon, the training ranges, and the Dixie Valley land holdings (US Navy 1997d). Due to a lack of diverse vegetation and the danger of unexploded ordnance throughout the area, B-20 was only briefly surveyed. The B-20 training range is almost entirely barren alkali flat habitat consisting of a dry lakebed, or playa. Playa soils are notable for high salt concentrations and are usually totally devoid of vegetation. Near the central portion of B-20 is Lone Rock, a prominent rocky outcrop surrounded by a zone of dune habitat. The saline/alkali condition of the dunes severely limits the potential for vegetative growth. Two plant species, however, are known to occur in this dune region—black greasewood (*Sarcobatus vermiculatus* var. *vermiculatus*) and seepweed (*Suaeda intermedia*) (US Navy 1980). Both species are common in the Great Basin. Other species commonly found on other sodic dunes in the region include Indian ricegrass (*Oryzopsis hymenoides*), needleandthread (*Stipa comata* var. *comata*), and fourwing saltbrush (*Atriplex canescens*). In disturbed areas, such as B-20, black greasewood tends to dominate vegetative diversity. On well-established and undisturbed sodic dunes, total vegetative cover is generally only between 10 and 20 percent (NRCS 1989).

3.2.2 Wildlife

Invertebrates, Fish, and Amphibians and Reptiles

No fish or amphibian species exist at B-20, and no aquatic invertebrates have been identified. No surveys have been conducted for reptiles at B-20, but there are a number of lizard and snake species likely to inhabit the region. Lizard species

include the northern desert horned lizard (*Phrynosoma platyrhinos platyrhinos*), Great Basin fence lizard (*Sceloporus occidentalis biseriatus*), common zebra-tailed lizard (*Callisaurus draconoides draconoides*), northern sagebrush lizard (*Sceloporus graciosus graciosus*), large-spotted leopard lizard (*Gambelia wislizenii wislizenii*), desert spiny lizard (*Sceloporus magister*), Great Basin whiptail (*Cnemidophorus tigris tigris*), and Nevada side-blotched lizard (*Uta stansburiana nevadensis*). Snake species include the western long-nosed snakes (*Rhinocheilus lecontei lecontei*), wandering garter snakes (*Hypsiglena torquata deserticola*), Great Basin gopher snake (*Pituophis melanoleucus deserticola*), desert striped whipsnake (*Masticophis taeniatus taeniatus*), desert night snake (*Hypsiglena torquata deserticola*), and Great Basin rattlesnakes (*Crotalus viridis lutosus*) (US Navy 1997d).

Birds

Bird species in the Lahontan Valley region include waterfowl, shorebirds, colony-nesting and other marsh birds, songbirds, and raptors. Approximately 70 percent of the birds migrating through the state use the Lahontan Valley wetlands, making the region an important stopover in the flyway (USFWS 1995). In 1988, Stillwater National Wildlife Refuge and the Carson Lake wetlands were designated as part of the Western Hemispheric Shorebird Reserve Network (WHSRN), one of only 17 such reserves worldwide. Waterfowl species commonly found in the wetlands include the American widgeon (*Anas americana*), Canada goose (*Branta canadensis*), gadwall (*Anas strepera*), green-winged teal (*Anas crecca*), northern pintail (*Anas acuta*), northern shoveler (*Anas clypeata*), and redhead (*Aythya americana*). Common shorebirds include American avocet (*Recurvirostra americana*), common snipe (*Capella gallinago*), killdeer (*Charadrius vociferus*), black-necked stilt (*Himantopus mexicanus*), long-billed curlew (*Numenius americanus*), western snowy plover (*Charadrius alexandrinus*), Wilson's phalarope (*Phalaropus tricolor*), and least sandpiper (*Calidris minutilla*). Colony-nesting and other marsh birds include American coot (*Fulica americana*), black-crowned night heron (*Nycticorax nycticorax*), Forster's tern (*Sterna forsteri*), great blue heron (*Ardea herodias*), great egret (*Casmerodius albus*), pied-billed grebe (*Podilymbus podiceps*), ring-billed gull (*Larus delawarensis*), sora (*Porzana carolina*), and white-faced ibis (*Plegadis chihi*).

Although they forage, rest, and nest in the nearby wetlands, migrating waterfowl and shorebirds have not been observed at B-20. Some portions of B-20 may flood during storm events; however, there is no available forage or shelter for waterfowl in these areas. Shorebirds and marsh birds also may exist in the region of B-20, but mostly as they transit to other areas for foraging or roosting along their migration corridors. At least three species do utilize the Lahontan Valley for breeding—redhead, white-faced ibis, and Canada goose. None of these species have been observed within B-20.

Birds that have been observed at B-20 consist of raptors, songbirds, and other upland transient bird species. Rough-legged hawks (*Buteo lagopus*) have been

observed over B-20, but were likely in route to another location. American kestrels (*Falco sparverius*) also have been observed at B-20 and may nest in the surrounding areas.

Several other bird species have been confirmed within B-20. These species are common throughout the west and include sage sparrows (*Amphispiza belli*), common flickers (*Colaptes auratus*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), and mourning dove (*Zenaida macroura*). Suitable nesting habitat for these species is not present at B-20. These species most likely use B-20 as foraging or roosting habitat or transit through on their way to areas adjacent to B-20.

Mammals

Small mammals found within B-20 are typical of western deserts. Three species, the antelope ground squirrel (*Ammospermophilus leucurus*), the desert kangaroo rat (*Dipodomys deserti*), and the deer mouse (*Peromyscus maniculatus*) were trapped at B-20 during an early ecological study. Black-tailed jackrabbit also is occasionally observed within training range B-20.

Larger mammals are not common within B-20 due to the lack of forage, prey base, and suitable denning or cover resources; they are more likely to be found in the surrounding areas and hills. Potential species include coyote (*Canis latrans*), bobcat (*Lynx rufus*), kit fox (*Vulpes macrotis*), red fox (*Vulpes fulva*), mountain lion (*Felis concolor*), mule deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), ringtail (*Bassariscus astutus*), and raccoon (*Procyon lotor*). Some of these species, particularly coyote, fox, and deer, could stray into B-20, but only for brief transit to other preferred locations. B-20 offers limited foraging opportunities.

Bats

The presence of bats at B-20 is unknown. With the lack of vegetation to support insects, foraging opportunities are limited. The exception is during periods when the range is inundated with standing water, which could attract prey. Roosting opportunities are limited to crevices in the rocks at Lone Rock. These factors, plus noise and ground disturbances from Navy ordnance delivery training, make it unlikely that bats would inhabit the range, though bats may transit the range.

3.2.3 Sensitive Species

Sensitive species are defined as those that are listed by the US Fish and Wildlife Service (USFWS) or by the Nevada Division of Wildlife (NDOW) as endangered, threatened, proposed for endangered or threatened status, candidate for listing as endangered or threatened, or species of special concern. Also included as sensitive species are those listed by the Northern Nevada Native Plant Society (NNNPS). No sensitive plants or wildlife have been observed or are thought to exist on B-20 withdrawal lands.

Bald eagles (*Haliaeetus leucocephalus*) do not inhabit B-20, but are occasional winter visitors to the region. One bald eagle nest was confirmed in 1997 approximately 40 miles away from B-20. One bald eagle nest also was confirmed in 1998 in the same area. A second sensitive raptor species, the peregrine falcon (*Falco peregrinus*), is also an occasional winter visitor to the region but does not inhabit B-20. No peregrine falcon nests have been documented near B-20 in recent years.

3.2.4 Sensitive Habitats

The Lahontan Valley supports unique wetlands that include perennial streams (Carson River), perennial freshwater lakes and reservoirs, irrigation canals, and brackish saltwater marshes. The closest wetlands are located approximately five miles to the south of B-20 at the Stillwater Marsh. No jurisdictional wetlands exist on B-20 withdrawal lands.

3.3 GEOLOGY AND SOILS

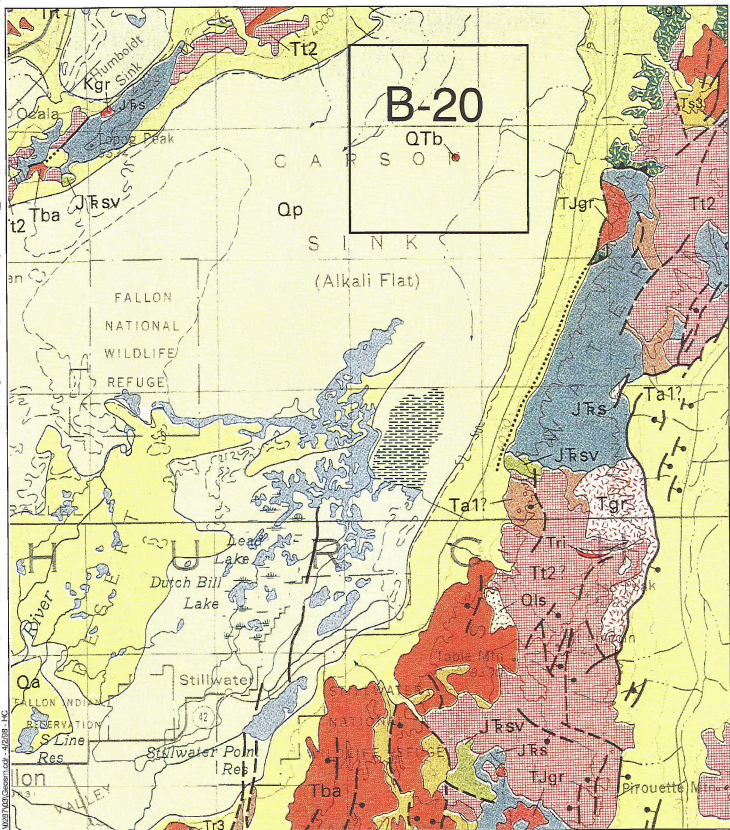
The geology of B-20 is discussed in this section in the context of the regional geologic setting. Seismicity, soil erosion, and energy resources also are discussed. The region of influence for geology and soils is the Carson Sink.

3.3.1 Regional Geologic Background

NAS Fallon is located in the western portion of the Great Basin geomorphic province. This is a semi-arid region characterized by basin and range topography. The process of extensional faulting has resulted in the formation of down-dropped valleys bounded by small, north-trending mountain ranges. The valleys tend to be internally draining closed basins. B-20 is located in the Carson Sink. Figure 3-3 depicts the geology around B-20.

The nearby mountain ranges generally are composed of an ancient Paleozoic or Mesozoic core draped with younger tertiary volcanic or sedimentary rocks. Basaltic volcanism has occurred in several isolated areas in the region during the past 20,000 years. Hot springs and other geothermal features typical of thin crustal areas and recently active volcanism are common in parts of Churchill County. In addition, mineralization associated with hydrothermal activity has resulted in the formation of rich ore deposits.

Pleistocene lakes, including the Ancient Lake Lahontan, which covered much of the northwestern Great Basin several times from 1.2 million years ago to 10,000 years ago, covered the basins of the area. As the lake level fell during the past 10,000 years, it shrank into several smaller lakes. Thick clay beds were deposited in the deeper areas of the former Lake Lahontan. In addition to lake sediments, riverine deltas from the Truckee and Carson Rivers resulted in the deposition of sand, gravel, silt, and minor amounts of clay. Wave action from the ancient lakes removed many of the lower fans leaving evidence of the past lake levels preserved in terraces high above the current valley floors.



B-20 lies in the Carson Sink, an alkali flat.

Legend

- B-20 = Ranges
- Qa = Alluvial deposits
- Qp = Playa, marsh, and Alluvial-flat deposits, locally eroded
- Qfb = Basalt flows
- Tr = Ash-flow tuffs, rhyolitic flows, and shallow intrusive rocks
- Tjgr = Rhyolitic flows and shallow intrusive rocks
- Ta3 = Andesite and related rocks of intermediate composition
- Tba = Andesite and basalt flows
- Tb3 = Tuffaceous sedimentary rocks
- Tt2 = Welded and non-welded silicic ash-flow tuffs
- Tt2 = Rhyolitic flows and shallow intrusive rocks
- Tjgr = Granitic rocks, central and eastern Nevada - mostly quartz monzonite and granodiorite
- Tgr = Granitic rocks - mostly quartz monzonite and granodiorite
- Kgr = Granitic rocks - mostly quartz monzonite and granodiorite

B-20 Geology
NAS Fallon, Nevada

Figure 3-3

3.3.2 B-20 Geology

Lone Rock, a prominent, steep-sided hill, is the only bedrock exposure within B-20. The exposed rock is volcanic, a fine-grained to aphanitic basalt thought to be of late Miocene or Pliocene age. Rocks of similar composition, texture, and age are widespread in the Stillwater Mountain Range. For example, they are the most prevalent rock type in the Cocoon Mountains. Lone Rock is the exposed top of a volcanic neck or plug, a relationship indicating that basalt extends to a considerable depth beneath the surface of the playa and probably is connected to a larger subsurface unit (US Navy 1980).

Several sand dunes flank the base of Lone Rock, while others extend northeasterly across the surface of the playa. This generally well-rounded sand is composed of grains of quartz, feldspars, chert or opal, olivine, magnetite, and various lesser minerals derived from volcanic rocks. These dunes are active, in that deposition and shifting occurs; therefore, they are among the youngest geologic units in the area (US Navy 1980).

3.3.3 Soils

Most of the soils within B-20 (approximately 40,000 acres) are classified as playa, a typical soil of the Carson Sink (NRCS 1986). Playa is an ephemeral flooded, barren area that serves as the final sink for water from river and stream drainages. The soil consists primarily of clayey surface material, but varies in particle size from sand to clay. These materials are strongly alkaline to very strongly alkaline. Natural drainage is very poor and internal drainage is very slow; therefore, ponding is common. During these intervals, alkaline and saline waters drained from surrounding uplands accumulate on the surface and evaporate or slowly percolate into the playa, leaving salt crusts and alkaline deposits as surface residue. Natural erosion is rare (NRCS 1975).

Playa soils generally are devoid of vegetation and have little potential for plant production, either irrigated or nonirrigated. As a result, they are considered unsuitable for cultivation or grazing and are of little value for recreation or for wildlife habitat (NRCS 1975).

Approximately 200 acres around Lone Rock, including the talus slopes and sodic sand dunes, contain soils within the Isolde-Paran-Appian association (NRCS 1986). Fine sands with some silty clay dominate this association. Permeability rates may be high. This area also is limited in the ability for sustaining vegetation cover, cultivation, or grazing.

Soil susceptibility to water and wind erosion varies from slight to high depending on slope, characteristics of the soil, the presence of rock fragments on the surface (which tend to stabilize the soil), and the presence of vegetation. The amount of coarse material in the soil varies with location on the alluvial fan, with coarse

fragments located higher on the fan, grading to fewer coarse fragments on the valley floors.

The majority of the soils at B-20 are subject to wind erosion when disturbed. The Navy's use of the training range has caused numerous craters in the playa surface. These craters collect sediments and residual salts during ponding. Bombing of Lone Rock has shattered portions of the bedrock structure, contributing to an accelerated rate of erosion. Soils on the range have not been tested for contamination, but soil sampling at other long-term desert bombing ranges in California and Nevada found low to nondetectable levels of explosives residue in the soil (US Air Force 1996b; US Marine Corps 1997). The soil types of these ranges are similar to B-20; however, cluster bombs, which were the primary contributor to explosive compound debris on the ranges tested by the Air Force, are not used on NAS Fallon training ranges. Compared to ordnance dispensed at NAS Fallon, cluster bombs have a higher concentration of reactive materials and are dispensed by the hundreds, depending upon the type of cluster bomb, over a smaller area. The explosive profile of cluster bombs results in ordnance being projected in multiple directions at impact, which results in ordnance becoming buried in the soils. At NAS Fallon training ranges, fewer bombs are dispensed over a larger area, resulting in lower concentrations of reactive materials contamination than at a cluster bomb training ranges. Based on these findings, as well as water sampling at B-20 that revealed no heavy metal contamination or detectable nitrate concentrations, it is anticipated that explosive residue at B-20 would be similar to or less than explosive residue found in soils sampled on Air Force ranges.

3.3.4 Energy Resources

Geothermal

Data from thermal springs, water wells, and geothermal exploration wells have been used to define areas of the state that have potential for geothermal resources. Hot springs and wells occur throughout the Carson Sink, and the Churchill County Master Plan indicates that the Carson Sink is a favorable area for the discovery of thermal water for direct heat applications (Churchill County 1995). There are no thermal springs at B-20. Although an 11,000-foot deep oil test well drilled at the northeast corner of B-20 encountered a water temperature of 280 to 290 degrees Fahrenheit, a subsequent mineral resources study of B-20 found no evidence that valuable geothermal resources are present at the range (US Navy 1980; US Navy 1986).

Oil and Gas

There are no oil or gas leases on B-20. The character of the source reservoir beds in the Fallon basin beneath B-20 are dissimilar to the geologic environment of the oil fields in Nevada over 100 miles to the east. The upper 5,000 feet of lake sediments in the Carson Sink have not undergone sufficient depth of burial and elevated temperatures to generate commercial quantities of oil. Methane gas from

organic-rich sediments of the Quaternary Wyemaha geological formation have been produced in sub-commercial quantities 20 to 40 miles south of the range, but the shallow sand conditions of the range limits gas potential. It is highly improbable that valuable deposits of oil and natural gas are present at B-20 (US Navy 1986).

3.4 WATER RESOURCES

Water resource issues discussed in this section include regional surface water and ground water, water quality, and flooding and drainage. The region of influence for water resource issues is the area that could be affected by B-20 operations.

3.4.1 Regional Hydrologic Conditions

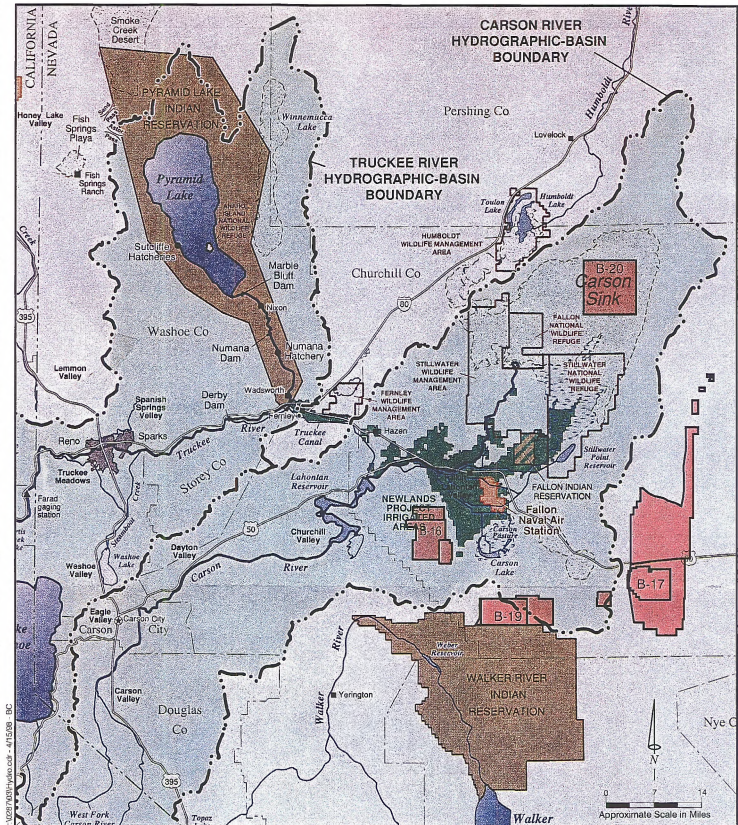
B-20 is located in the central portion of the Carson Desert Hydrographic Basin, the terminus subbasin of the larger Carson River basin. This subbasin is commonly referred to as the Lahontan Valley basin. Runoff in the basin eventually reaches wetlands at Carson Lake, the Stillwater Wildlife Management Area, and the Carson Sink. B-20 is located at the terminus of the northeastern portion of this basin. Hydrologic basins are shown on Figure 3-4.

B-20 is in an area of high desert interspersed with isolated mountain ranges. Precipitation ranges from five to 20 inches per year, with the higher precipitation falling on the mountain ranges and the lower precipitation falling in the intervening valleys and flats. Evapotranspiration in the region is approximately 60 inches per year. Runoff occurs during major storms, with occasional high runoff from the mountain ranges to the valley flats below. Occasional springs occur in the bedrock outcrops, at or near geologic contacts and fault zones, and in areas with high water tables.

No flood hazard mapping has been done for B-20. It is expected that periodic flooding occurs along the washes in these areas.

3.4.2 B-20 Hydrologic Conditions

B-20 is located in the barren alkali flat of the Carson Sink, which is a large, hydrologically closed depression. The Carson River and Humboldt River drain into the Carson Sink, covering a combined drainage area of approximately 26,000 square miles (Morrison 1964). Due to infiltration and evaporation, the Humboldt River rarely has sufficient flow to reach the Carson Sink, but the Carson River historically flows into the sink during much of the year. Packard Valley, northeast of Carson Sink and B-20, is tributary to the Carson Sink but does not drain directly into the Carson River. Additional water enters the Carson Sink via precipitation and the Truckee Canal, which is part of the Newlands Reclamation Project.



Regional Hydrologic Features

NAS Fallon, Nevada

- Legend**
- Training Ranges
 - Indian Reservation
 - Hydrographic Basin Boundary
 - Newlands Project Irrigated Areas

NAS Fallon withdrawn lands are located in the Carson River Hydrographic Basin.

Most of B-20 comprises playa. No permanent surface water, either ponds or perennial streams, are located on B-20 (US Navy 1980). Similarly, no through-going intermittent streams have been identified. The nearest bodies of year-round surface water are the lakes in the Stillwater National Wildlife Refuge and Management Area, approximately 10 miles southwest of Lone Rock. There are no water developments at B-20.

While B-20 is normally dry, it can flood during high runoff events. These occurrences are random and the length of ponding is variable depending upon evaporation and infiltration rates. Because B-20 is located within the terminus of the hydrological basin, it is sloped such that water from the Fallon and Stillwater National Wildlife Refuges flows into B-20. Only during infrequent high water years will the Carson Sink flood to such a degree as to spill over into the refuges.

The playa soils that cover most of the training range are generally clayey with very poor natural drainage and very slow internal drainage. The ground water system at B-20 is part of the shallow alluvial aquifer that covers much of the Lahontan Valley (Glancy 1986). The shallow aquifer is a discontinuous hydrogeologic unit created by constantly changing depositional environments that produced a complex mixture of sediment deposits. The direction of ground water flow in the shallow aquifer is northeastward in the north part of the Lahontan Valley (Maurer etal 1994). Recharge of the shallow aquifer generally occurs near Fallon, primarily from seepage of irrigation fields, drains, and delivery canals. The primary point of regional aquifer discharge is the Stillwater National Wildlife Refuge and Carson Sink. Here water moves upward to the surface soils and is subject to evaporation and evapotranspiration (Maurer etal 1994). Therefore, as the aquifer proceeds northeastward, the depth to ground water generally decreases (Glancy 1986). At the Stillwater National Wildlife Refuge, the depth to water is between 10 and 15 feet.

No monitoring wells or water supply wells have been drilled in B-20; however, it is known that the water table depth is shallow, generally around three feet, and very saline due to the evaporative environment. There is one well located approximately one mile northwest of B-20. The Navy drilled the well in 1987 and used the water for road construction at a communication facility. The well is not in use and depth to water is about 10 to 15 feet.

3.4.3 Water Quality

B-20 is a controlled access area. There is no ground water or surface water development for industrial, domestic, or agricultural uses on the training range. Ground water at B-20 is very saline and unsuitable for domestic supplies. As the shallow aquifer moves northeastward, away from Fallon and towards the Stillwater National Wildlife Refuge and B-20, water quality degrades substantially. For example, concentrations of dissolved solids and arsenic in the ground water near Stillwater National Wildlife Refuge commonly exceed drinking water

standards (Lico 1992; Glancy 1986). Given the naturally occurring poor water quality conditions at B-20, future development of ground water resources is unlikely.

Ponded surface water may occur at B-20 during runoff and flood events. The quality of ponded surface water has not been studied but is likely a function of volume and time. Evaporation and the upward movement of saline ground water have produced an alkaline surface on the playa. The longer ponded water is exposed to the alkaline surface, the higher the concentration of salts becomes in the water. Concentration levels are dependent upon the volume of water; the larger the volume the less the concentration, and the smaller the volume the greater the concentration. This process was illustrated during the wet years of 1982 through 1984 when the Carson Sink was inundated, covering most of the area between Lovelock and Fallon, including B-20. The water volume was so high that the water quality was good and contained enough nutrients to support aquatic species, including fresh water fish. However, as water evaporated the salts became more and more concentrated. Eventually, by the winter of 1986 to 1987, the salinity level in the water became so high that it resulted in a massive fish kill. The US Geological Survey studied this event and determined that the concentration of salts exceeded the salt-tolerance of the fish (Rowe and Hoffman 1987). The study found no evidence that ordnance at B-20 contributed to the adverse conditions. Based on this event and the geology of the region, the water quality of smaller surface ponding events on B-20 is presumed to be naturally poor.

The primary potential source of contaminants at the training ranges is related to explosive ordnance and pyrotechnics used on the training ranges. Based on requests made during public scoping, water sampling was conducted at B-20 in December 1997. Water found in bomb craters at B-20 was tested for inorganic (e.g., metals), soluble, and volatile organic compounds. The water was sampled at approximately three feet below the surrounding ground level. Given the high water table in the area, the sampled water was determined to be ground water that had intersected with the crater, resulting in exposed ground water. Therefore, the samples are representative of shallow ground water conditions at B-20. Most constituents tested were below laboratory detection levels. Constituents found above detection levels are shown in Table 3-1. Although ground water in the Carson Sink is not a source of drinking water, drinking water standards for detected constituents are included as a basis for comparison.

The high levels of the constituents shown in Table 3-1, with the possible exception of surfactants and color, are attributable to the geology of the area. The Carson Sink is alkali in nature, resulting in high pH, high dissolved solids, and high levels of salts such as chloride and sulfate. In addition, arsenic is known to be naturally occurring in the region at levels consistent with those found in the water samples.

No constituents attributable to ordnance contamination, such as heavy metals or nitrate, were detected in the water samples.

Table 3-1
B-20 Water Sampling Results

Constituent	Regulatory Level	Constituent Level Sample #1	Constituent Level Sample #2
Arsenic	0.05 mg/L	25 mg/L	20 mg/L
pH	6.5 to 8.5 S.U.	9.36 S.U.	9.29 S.U.
Total Dissolved Solids	500 mg/L	356,772 mg/L	347,452 mg/L
Chloride	250 mg/L	210,000 mg/L	210,000 mg/L
Sulfate	250 mg/L	20,000 mg/L	19,000 mg/L
MBAS Surfactants	0.5 mg/L	0.62 mg/L	0.48 mg/L
Color	15 color units	100 color units	125 color units

Source: US Navy 1997e

3.5 CULTURAL RESOURCES

This chapter discusses the archeological and historical background data pertinent to the B-20 training range. It presents a summary of existing studies at B-20, a description of prehistory, ethnohistory, and history of the area, and the results of cultural resource studies. The term "cultural resources" includes any object, site, area, building, structure, or place that is archeologically or historically significant, or that exhibits traditional cultural value (e.g., properties sacred to Native Americans or other ethnic groups). The region of influence for cultural resources is defined by the boundaries of B-20.

3.5.1 Cultural Resources Studies

In 1981, a cultural resource study providing a detailed account of the prehistory and history of the Carson and Humboldt Sinks and specifically addressing the B-20 training range was prepared (Bard et al. 1981). In addition, a recent survey of B-20 was conducted in 1993 and 1994 in support of a predictive model of prehistoric sites in the Carson Desert. As part of this project, over five percent of B-20 was inventoried (Intermountain Research 1995).

3.5.2 Prehistoric Resources

Prehistory. B-20 lies in the lakebed of the ancient Lake Lahontan, which covered much of the northwestern Great Basin several times from 1.2 million years ago to 10,000 years ago. The general region containing the B-20 training range is known to have been occupied since the Late Pleistocene, at least 10,000 years before present (BP), and possibly as early as 20,000 years BP. Five cultural periods have been identified for the region. These include the Pre-Projectile Point Period, the Pre-Archaic Period, the Early Archaic Period, the Middle Archaic Period, and the Late Archaic Period (US Navy 1993a). The Pre-Projectile Point Period (20,000 to

13,000 years BP) is characterized by low populations of small, highly mobile groups who occupied a variety of environments for short durations. Subsistence relied on both small and large game and a variety of vegetal resources. Tools from this period included crudely made lithic scrapers, choppers, cores, and flakes (US Navy 1993a).

The Pre-Archaic Period (13,000 to 8,000 years BP) is similar to the pre-Projectile Point Period in that low populations of small, highly mobile groups occupied lacustrine and marsh environments and utilized the game and vegetal resources found there. Repeated occupation of sites is evident in this period. Tools consisted of fluted and stemmed Lanceolate points, blades, knives, crescents, punches, choppers, and scrapers with heavy use and extensive resharpening (US Navy 1993a).

The Early Archaic Period (8,000 to 4,000 years BP) still held a low overall population density. Family groups occupied small campsites within a variety of environments, but a decrease in mobility has been noted. Villages with structures were established near water sources. Subsistence practices were generalized with an emphasis on hunting. Seed procurement and processing grew in importance and more structure was given to resource exploitation. There was an increased use of non-retouched flakes, with an addition of milling-related artifacts (US Navy 1993a).

During the Middle Archaic Period (4,000 to 1,500 years BP), small mobile groups began to aggregate together in the winter and occupy larger villages. Temporary camps and hunting locations were utilized near available resources. A wider range of resources were exploited, including fish, sedge, and cattail. Increased use of seeds also occurred, while hunting remained important. Trade between groups increased. Tools include utilized flakes, drills, punches, scrapers, choppers, and milling implements. Bedrock metates appear in winter villages (US Navy 1993a).

The Late Archaic Period (1,500 year BP to European Contact) saw larger villages of fewer residents and less frequent occupation of individual sites; however, temporary camps near resources were still utilized. Structures within the villages were smaller and less elaborate. Hunting large game decreased while a greater emphasis was placed on small game and exploitation of a wide variety of vegetal resources. Pinyon was heavily utilized, as were local lithic resources. Tools and artifacts included arrowpoints, with less use of nonlocal materials. Milling implements were common (US Navy 1993a).

Prehistoric Resources

In 1995, a model was developed to predict areas of likely prehistoric human foraging activity and settlement in the Carson Desert. The model describes all habitat types at B-20 as playa, which has the lowest predictive ranking for

supporting prehistoric activity. As defined in the report, playa areas show few or no human foraging and logistic sites and no residential base camps (Intermountain Research 1995). Two isolates and no archeological sites were recorded within B-20 in the five percent of the training range surveyed for cultural resources or in a target area surveyed prior to target development. This finding supports the conclusions of the predictive model. Although unlikely, unidentified prehistoric archeological resources could exist within unsurveyed portions of B-20.

3.5.3 Historic Resources

History

The first recorded visit to the Carson-Humboldt Sink region was by Peter Skene Ogden, an employee of the Hudson Bay Company, in 1828. Ogden followed the Humboldt River from its upper reaches to its mouth at Humboldt Lake. Ogden's visit to the area was followed in the 1830s and 1840s by several other explorers, including Joseph Walker and John C. Fremont. The routes through Nevada established by these early explorers were later followed by groups of settlers on their way to California. Several of these groups camped for days within the Humboldt and Carson Sinks. Settlement of the region did not include the portion of the Carson Sink in which B-20 is located (US Navy 1993a).

Under the National Emergency War Powers Act, the NAS Fallon training range complex was created in April 1944 with the temporary establishment of training range B-20. Military air-to-ground bombing has occurred at B-20 since that time. B-20 contains a mock submarine, strafing banners, bull's-eyes, a lighted helicopter pad, run-in lighting, spotting towers, and electronic scoring. The training range provides a target area for high explosive ordnance up to 2,000 pounds and for practice/inert ordnance. B-20 is fenced, and public access is restricted due to surface and subsurface ordnance. There is no mining, grazing, recreation, or oil, gas, or geothermal production on the range.

Historic Architectural Resources

No historic architectural resources are located within B-20.

3.5.4 Cultural Properties

Ethnohistory

The primary Native American group known to have occupied the region including B-20 is the Northern Paiute. The Northern Paiute occupied a large territory extending from Mono Lake north through Nevada and into Oregon and east as far as Reese River. The Humboldt and Carson Sinks fell within the south-central portion of Northern Paiute territory (Fowler and Liljeblad 1986). During scoping, the Western Shoshone claimed entitlement to most lands within Nevada, including Churchill County, under an 1863 treaty.

Traditional Cultural Properties

Lone Rock, a steep-sided hill rising approximately 160 feet above the playa surface, is located within the central part of B-20 on lands acquired from the Southern Pacific Railroad Company. Anthropologists have found reference to Lone Rock in Northern Paiute mythology. According to tradition, Lone Rock (called *mosi'* in Northern Paiute) was created when Wolf's head was cut off and thrown over Pine Nut Mountain in a battle between the People from the Pine Nut Mountains (Stillwater Range) and Wolf and his brother Coyote (USFWS 1992; SAIC 1991; US Navy 1980). Lone Rock has been heavily disturbed by years of bombing activities at the training range. Through consultation with spiritual and tribal leaders of the Fallon Paiute-Shoshone Tribe and the Walker River Paiute Tribe, it is concluded that while Lone Rock might have been the subject of traditional beliefs passed down orally through the generations, it no longer is important in maintaining the continuing cultural identity of the Paiute Community. Therefore, Lone Rock does not qualify for listing on the National Register.

3.5.5 Historic Preservation Requirements

Federal Laws

Section 106 of the National Historic Preservation Act (NHPA, 16 USC 470f), as amended (PL 89-515), and its implementing regulations (36 CFR 800) require federal agencies to consider the effects of their actions on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). It also requires that agencies provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on actions that will directly or indirectly affect properties included in or eligible for inclusion in the NRHP. The criteria for evaluating NRHP eligibility, or significance, of historical properties are found in 36 CFR 60.4.

Additional responsibilities are placed on the activity commander or commanding officer pursuant to cultural resources requirements of the DOD and the Department of the Navy (DOD Directive 4710.1 of 21 June 1984, Archeological and Historic Resources Management; Department of the Navy OPNAVINST 5090.1B, Historic and Archeological Resources Protection, 1 November 1994, Chapter 23). More specific is Section 110(a)(2) of NHPA, which requires that the Navy establish a program to locate, inventory, and evaluate all historic properties under its jurisdiction that may qualify for listing in the NRHP and to nominate such properties.

Another applicable federal law is the Archeological Resources Protection Act of 1979 (16 USC 470aa-11). This law requires issuance of permits to excavate any archeological resources on Indian tribal or federal lands. Unauthorized activities are punishable by fine, imprisonment, or both.

An additional federal law is the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001-3013), or NAGPRA. NAGPRA requires federal agencies and museums receiving federal funds to inventory and repatriate human remains, associated and unassociated funerary objects, and items of cultural patrimony to Native Americans. These items must be returned, upon request, to lineal descendants or to Indian tribes with the closest cultural affiliation.

NAS Fallon Plans and Agreements

In 1993, a Cultural Resources Management Plan (CRMP) was prepared for NAS Fallon and the FRTC. This document provides an overview of the prehistory, ethnohistory, and history of the area; describes previous archeological studies conducted within NAS Fallon and the region; lists known resources within NAS Fallon, the training ranges, and the proposed Range Safety and Training Public Land Withdrawal area; and establishes survey, recordation, evaluation, and historic preservation procedures for managing cultural resources on NAS Fallon (US Navy 1993a). A Programmatic Agreement (PA) among NAS Fallon, the Nevada State Historic Preservation Officer (SHPO), and the ACHP regarding the identification, evaluation, and treatment of historic properties on lands managed by NAS Fallon was signed by all three agencies in June 1996. This PA specifies that procedures outlined in the CRMP will be followed, except as negotiated otherwise by all parties of the PA. The PA also describes specific undertakings by the Navy that are excluded from NHPA Section 106 review. These exempt undertakings include existing projects or programs that would not disturb additional surface area or National Register properties; where the existing activity has been subject to previous NHPA Section 106 consultation; and the continued use of high explosives in designated target areas within the training ranges that have been used historically for this purpose and are highly disturbed (NAS Fallon 1996).

3.6 ENVIRONMENTAL JUSTICE AND SOCIOECONOMICS

This section describes the regional socioeconomic setting. Socioeconomic conditions addressed include population, employment, and income. Pursuant to Executive Orders 12898, environmental justice also is addressed.

The City of Lovelock, located in Pershing County, and all of Churchill County defines the socioeconomic region of influence. Lovelock is the closest community to B-20, while B-20 and NAS Fallon are located in Churchill County. Operations at NAS Fallon are dependent upon use of B-20; therefore, the economic connection to the City of Fallon is just as important as the regional location of the training range for assessing socioeconomic impacts. The Walker River Paiute Tribe, Lovelock Paiute Tribe, and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony are all within the region of influence.

3.6.1 Population

The City of Lovelock has a population of just over 3,000 with an annual growth rate during the last 10 years of three percent. Its future growth rate is projected to be similar to the City of Fallon, about four percent annually, with the population approaching 3,240 in the year 2000 and 3,475 in 2002 (Nevada State Demographer's Office 1998a).

The community nearest to NAS Fallon is the City of Fallon, which had a population of 6,438 in 1990 and a projected current population of 8,612 (US Census 1990, Nevada State Demographer's Office 1998a). Fallon, the county seat,

is a service-oriented city for the surrounding ranching and farming interests and NAS Fallon. Employment in Fallon derives from government and support services, construction, manufacturing, retail trade, ranching, farming, mining, and tourism. The agricultural development is supported with water from the BUREC's Newlands Reclamation Project.

The population of Churchill County is approximately 24,000, with about 95 percent of that population living in the City of Fallon or within a 10-mile radius of the city. The federal government administers almost 67 percent of the land in Churchill County (State of Nevada 1992). Churchill County population increased from 13,917 in 1980 to 17,938 in 1990, with an average annual growth rate of about three percent. In 1997, the population was projected to be 23,860, up 5.7 percent from 1996 (Nevada State Demographer's Office 1998b). As shown in Table 3-2, Churchill County population increases are projected to continue through 2015 when the county population could reach almost 49,000. These population increases are expected to continue the current growth trends in the Fallon area. The City of Fallon is projected to grow at an annual rate of about four percent, with the population approaching 9,300 in the year 2000 and 9,850 in 2002 (Nevada State Demographer's Office 1998a).

Table 3-2
Churchill County Population Estimates 2000-2015

Year	Population Estimates	
	Low	High
2000	24,800	29,250
2005	26,130	33,660
2010	26,270	40,630
2015	26,350	48,960

Source: Nevada State Demographer's Office 1998c

3.6.2 Employment and Income

The largest sector of Churchill County's economy in terms of income and employment is the federal government. Most government employment is attributable to NAS Fallon, which has been a mainstay of the county's economy since the late 1940s. In 1994, NAS Fallon directly accounted for 2,330 jobs, which is nearly 30 percent of the county's total employment. These jobs include 984 military positions, 603 civil service positions, and 743 contractors. Almost all employees live within the county; less than five percent may commute from Lovelock. In terms of total payroll in the county, the Navy and contractors at NAS Fallon accounted for approximately \$84 million in 1994. Of this total, Navy salaries accounted for \$59.5 million and contractor salaries accounted for \$24.6 million. An unknown but probably small portion of the contractor payrolls should be revised downward to account for workers residing outside the county

and for contractors whose businesses are based outside the county (US Navy 1995).

Agriculture and mining are also important to the county's economy. Agriculture accounted for about four percent of Churchill County income and about seven percent of total employment (Bureau of Economic Analysis [BEA] 1991). The mining industry constitutes an important but relatively small part of Churchill County's economy; it accounts for approximately one percent of the economy by income and about two percent of the county employment (BEA 1991). The predominant industries in Lovelock are agriculture, ranching, mining, and service sectors.

3.6.3 Environmental Justice

On February 11, 1994, President Clinton issued the Executive Order on Federal Actions to Address Environmental Justice in Minority and Low Income Populations (Executive Order 12898). This order requires that "Each Federal agency shall analyze the environmental effects, including human health, economic, and social effects, of Federal actions including effects on minority and low-income communities, when such analysis is required, by the National Environmental Policy Act of 1969, 42 USC Section 4321, et. seq. Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental effects of proposed Federal actions on minority communities and low-income communities."

Pursuant to Executive Order 12898, Section 4.6 of this document discusses possible adverse disproportionate effects on minority and low-income populations in the region of influence resulting from the proposed action. Current background information on minority groups is provided below to assist in this discussion. The 1980 and 1990 racial census counts of Churchill County are detailed in Table 3-3 and show that whites made up 90.9 percent of the population in 1980 and 89.4 percent of the population in 1990 (US Census 1980, US Census 1990). Population characteristic projections for 1998 estimate that 90.6 percent of the county population is white, 1.3 percent is black, 5.4 percent is American Indian, and 2.7 percent is Asian. The total population of Hispanic origin is 6.5 percent (Nevada State Demographer's Office 1997). These figures show increasing representation among minority groups between 1980 and 1998; although this trend may continue, whites remain the vast majority of Churchill County residents. The racial breakdown of Lovelock is similar to Churchill County; whites comprise 81 percent of the population, blacks comprise one percent, and Native Americans comprise seven percent (US Census 1990).

Table 3-3
Racial Breakdown of Churchill County, 1980 and 1990

Race	1980 Census	Percentage of Total	1990 Census	Percentage of Total
Total	13,917	100.0	17,938	100.0
White	12,654	90.9	16,028	89.4
Black	95	0.7	203	1.1
Native American	666	4.8	895	5.0
Asian or Pacific Islander	304	2.2	466	2.6
Other race	198	1.4	346	1.9

Sources: US Census 1990; US Census 1980

There are no communities or Native American reservations adjacent to B-20. Located near Fallon is the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony. The colony consists of 60 acres two miles northeast of Fallon, and the reservation consists of over 8,000 acres 12 miles northeast of Fallon. The Lovelock Paiute Tribe is located near Lovelock and the Walker River Paiute Tribe is located in southwestern Churchill County, just south of B-19.

3.7 AIR QUALITY

The region of influence for air quality issues varies according to the type of air pollution being discussed. Primary pollutants, such as carbon monoxide and directly emitted particulate matter, have a localized region of effects generally restricted to the immediate vicinity of the source of emissions. Secondary pollutants, such as ozone, have a broader region of effects.

3.7.1 Ambient Air Quality Standards

Both Nevada and the federal government have established ambient air quality standards for several different pollutants, often referred to as criteria pollutants (Table 3-4). Nevada's standards are equal to or more stringent than the federal standards. As indicated in Table 3-4, ambient standards for some criteria pollutants have been set for both short and long exposure episodes. Most ambient standards have been set to protect public health, while some state ambient air quality standards may be based on other considerations, such as protecting crops and materials or avoiding nuisance conditions.

Nevada is mandated to identify geographic areas that do not meet federal and state air quality standards. The state uses air quality data gathered by monitoring networks to determine the areas within the state not attaining standards. Areas that violate federal or state standards are referred to as "nonattainment areas" for the relevant pollutants.

Table 3-4
Ambient Air Quality Standards Applicable in Nevada

Pollutant	Symbol	Averaging Time	Standard, as parts per million by volume		Standard, as micrograms per cubic meter		Violation Criteria	
			Nevada	National	Nevada	National	Nevada	National
Ozone	O ₃	1 Hour	0.12	0.12	235	235	If exceeded	If exceeded on more than 3 days in 3 years
		8 Hours	—	0.08	—	160	—	If exceeded by 4 th highest value during a 3-year period.
Carbon Monoxide	CO	8 Hours	9.0	9	10,000	10,000	If exceeded	If exceeded more than 1 day per year
		1 Hour	35	35	40,000	40,000	If exceeded	If exceeded more than 1 day per year
Inhalable Particulate Matter	PM ₁₀	Annual Geometric Mean	—	—	50	50	If exceeded	If exceeded
		24 Hours	—	—	130	150	If exceeded	If exceeded more than 1 day per year
Fine Particulate Matter	PM _{2.5}	Annual Arithmetic Mean	—	—	—	15	—	If exceeded
		24 Hours	—	—	—	65	—	If exceeded by 98 th percentile over 3 years
Nitrogen Dioxide	NO ₂	Annual Average	0.05	0.053	100	100	—	If exceeded
Sulfur Dioxide	SO ₂	Annual Average	0.03	0.03	80	80	If exceeded	If exceeded
		24 Hours	0.14	0.14	365	365	If exceeded	If exceeded more than 1 day per year
		3 Hour	0.50	—	1,300	—	If exceeded	If exceeded more than 1 day per year
Lead Particles	Pb	Calendar Quarter Average	—	—	1.5	1.5	—	If exceeded more than 1 day per year
Hydrogen Sulfide	H ₂ S	1 Hour	0.08	—	112	—	If exceeded	—

Visibility To maintain the prevailing visibility of greater than 30 miles when humidity is less than 70% (state standard only)

Source: Churchill County 1995a; 40 CFR Parts 50, 53, and 58

Notes: All standards except PM₁₀ and PM_{2.5} are based on measurements at 25 degrees C and 1 atmosphere pressure. Decimal places shown for standards reflect the rounding precision used for evaluating compliance. National standards shown are the primary (health effects) standards. Regulations implementing the national 8-hour ozone standard will not become effective until the 1-hour standard has been achieved. Regulations implementing the national PM_{2.5} standards will not be developed until 2005. EPA adopted new ozone and particulate matter standards on July 18, 1997; the new standards became effective on September 16, 1997. The national 1-hour ozone standard will be rescinded for an area when EPA determines that the standard has been achieved in that area. Previous national PM₁₀ standards (which had different violation criteria than the September 1997 standards) will remain in effect for existing PM₁₀ nonattainment areas until EPA takes actions required by Section 172(e) of the Clean Air Act or approves emission control programs for the relevant PM₁₀ state implementation plan. Violation criteria for all standards except the national annual standard for PM_{2.5} are applied to data from individual monitoring sites. Violation criteria for the national annual standard for PM_{2.5} are applied to a spatial average of data from one or more community-oriented monitoring sites representative of exposures at neighborhood or larger spatial scales (40 CFR Part 58). The "10" in PM₁₀ and the "2.5" in PM_{2.5} are not particle size limits; these numbers identify the particle size class (aerodynamic equivalent diameters in microns) collected with 50% mass efficiency by certified sampling equipment. The maximum particle size collected by PM₁₀ samplers is about 50 microns aerodynamic equivalent diameter; the maximum particle size collected by PM_{2.5} samplers is about 6 microns aerodynamic equivalent diameter (40 CFR Part 53). Current air quality standards for particulate matter are based on the inhalable component of suspended particulate matter (PM₁₀).

3.7.2 Existing Air Quality Conditions

In Nevada, the Lake Tahoe Nevada area, Las Vegas area, and Reno area are nonattainment for carbon monoxide; Washoe County (Reno) and Clark County (Las Vegas) are nonattainment for inhalable particulate matter (PM₁₀); and Washoe County is nonattainment for ozone (40 CFR Part 81). There are no nonattainment designations for the rest of the state, including Churchill County. PM₁₀ is the only monitored air pollutant in Churchill, Lander, Mineral, and Nye counties. Churchill County monitored total suspended particulates (an earlier standard for measuring PM₁₀) from 1971 through 1987. The county started monitoring PM₁₀ in 1993. Data from the Churchill County monitoring station indicate that PM₁₀ levels are within 24-hour standards (Churchill County 1995a).

3.7.3 Existing Sources of Air Emissions

The primary sources of air emissions associated with B-20 are aircraft operations below 3,000 feet and bombing operations. No stationary sources exist on B-20.

3.7.4 Federal Clean Air Act Conformity Process

Section 176(c) of the Clean Air Act requires federal agencies to ensure that their proposed actions are consistent with the Clean Air Act and with federally enforceable air quality management plans. The US Environmental Protection Agency (EPA) has promulgated separate rules that establish conformity analysis procedures for transportation-related actions and for other (general) federal agency actions. The conformity review process is intended to ensure that federal agency actions will not cause or contribute to new violations of any federal ambient air quality standards; will not increase the frequency or severity of any existing violations of federal ambient air quality standards; and will not delay the timely attainment of federal ambient air quality standards.

A formal conformity determination is required for federal actions occurring in nonattainment areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. NAS Fallon is not located in a nonattainment area and is therefore not subject to conformity requirements.

3.8 NOISE

The primary source of noise associated with B-20 is aircraft activity and ordnance delivery training. This section discusses noise terminology, existing noise conditions, and noise studies.

Since noise levels decrease as the distance from the source increases, the affected region for noise issues is generally more limited than for other resources. The region of influence for noise issues in this LEIS is the portion of the counties surrounding B-20.

3.8.1 Noise Terminology

Sound level meters measure pressure fluctuations from sound waves, with separate measurements made for different sound frequency ranges. These measurements are reported in a logarithmic decibel (dB) scale. Because the human ear is not equally sensitive to all frequencies, the "A-weighted" decibel (dBA) scale is used to weight the meter's response to approximate that of the human ear. Other frequency weighting schemes are used for specialized purposes. The "C-weighted" decibel scale (dBC) often is used to characterize low frequency sounds, such as those produced by detonations, capable of inducing vibrations in buildings or other structures. The C-weighted scale does not significantly reduce the measured pressure level for low frequency components of a sound.

Equivalent noise levels (Leq) are used to develop single-value descriptions of average noise exposure over various periods. Average noise exposure over a 24-hour period often is presented as a day-night average noise level (Ldn). Ldn values are calculated from 24-hour averages in which nighttime values (10 PM to 7 AM) are increased by 10 dB to account for the greater disturbance potential from nighttime noises.

3.8.2 Existing Noise Conditions

Noise levels vary in and around the training ranges, from 60 dB outside the training ranges to over 75 dB inside the training ranges and along flight patterns (SAIC 1991). Live ordnance dropped on B-20 produces 65 dB noise contours at a distance of 6.7 miles from the impact area (SAIC 1991). There are no sensitive receptors, such as residences, within this noise contour. The closest sensitive receptor is the Stillwater National Wildlife Refuge, located about 10 miles south of the target impact area.

3.8.3 Noise Studies

Due to the remote area and lack of sensitive receptors, no noise studies have been performed for B-20 aircraft training operations.

3.9 MINERAL RESOURCES

This section discusses the mineral resources associated with the B-20 training range. Mineral resources at B-20 have been discussed in studies including the Special Nevada Report (SAIC 1991), the Mineral Resources Evaluation for B-20 (US Navy 1986), and the Environmental Assessment for the Withdrawal of the B-20 Bombing Range (US Navy 1980).

3.9.1 Types of Mineral Commodities

Mineral commodities are grouped by law into locatable minerals, leasable minerals, and salable minerals. Examples of locatable minerals include gold, silver, tungsten, fluorite, copper, lead, zinc, and uncommon varieties of limestone and other minerals having unique and special values. Leasable minerals include oil and gas, geothermal resources, and solid leasable minerals. Salable minerals are

common varieties of sand, stone, gravel, pumice, pumicite, cinders, and clay. A mineral resource evaluation of B-20 was conducted in 1986, which concluded that there are no economically valuable deposits of mineral commodities on the training range (US Navy 1986).

3.9.2 Metallic Mineral Resources

No mineral districts are located at the B-20 training range and there are no patented or unpatented mining claims at B-20. The 1986 mineral evaluation of the range found no valuable deposits of gold, silver, or platinum on the range (US Navy 1986). The mineral bedrock at B-20 is estimated to be at a depth below 2,000 feet, which is beyond the reach of current mining interests.

3.9.3 Nonmetallic Resources

This section discusses other extractive resources that could be mined in the region. Energy resources are discussed in Section 3.3.4.

Sand, Gravel, and Stone

No unique stone, sand, or gravel resources exist at B-20. Lone Rock could be used as a source of stone and the adjacent sand dunes and gravel bar as sources of sand and gravel. However, stone, sand, and gravel deposits are very common in the region, making it likely that there are more favorably located deposits for production. The mineral survey of B-20 determined that the deposits on the training range have no economic value (US Navy 1986; US Navy 1980).

Clays

Most of B-20 below a few inches of sandy mud is clay-size soil. Some clay mineral soils have considerable value. However, testing conducted on the soil at B-20 showed the material to have a low proportion of clay minerals, comprised primarily of very fine rock minerals that have no value. This survey concluded that there are no clay mineral deposits with value on the training range (US Navy 1986).

Sodium and Potassium Compounds

B-20 is located on the northern margin of the Carson Sink, a deep basin that has the potential for mineral-bearing brine. Brines that permeate clay, silt, and minor sands on the training range contain common salt, potash, salt cake, soda ash, and borate, all of which are valuable commodities. The concentration of these minerals is very low and has little commercial value when compared to the richer brines found throughout the region (US Navy 1986; US Navy 1980).

3.10 LIVESTOCK AND WILD HORSE MANAGEMENT

While livestock grazing areas and wild horse management areas exist in Churchill County, there are none at or near B-20.

3.11 RECREATION AND VISUAL RESOURCES

This section describes recreational opportunities in and the visual quality of lands at B-20.

3.11.1 Recreation

Public access is restricted, and no recreational activities are permitted at B-20. In general, the flat and barren Carson Sink does not afford as many recreational opportunities as other nearby lands. ORV use is the primary recreational activity in this area.

3.11.2 Visual Resources

Visual resources consider the natural and built features that make up the distinguishable character of the overall landscape. Visual resources in a watershed are defined by many factors, including scenic quality and viewer sensitivity. Scenic qualities provide a descriptive impression of a landscape and include natural features, such as topography, vegetation, water, and soils, and human modifications to an area, such as roads, buildings, and utility lines. The angle and frequency of the view and the viewer's expectations of the landscape can determine viewer sensitivity. Other sensitivity factors include the public interest, amount of use, and adjacent land use. Sensitivity levels are a measure of public concern for scenic quality.

The Carson Sink, in which B-20 is situated, is dominated by playa. Playa tends to have little topographic relief and is monochrome in color, predominantly of brown hues. The eastern side of the playa is bounded by the Stillwater Mountains, which rise over 3,000 feet above the Carson Sink. The West Humboldt Mountain Range bounds the northern and western sides of the playa. The playa extends several miles south of B-20, ending in the Stillwater National Wildlife Refuge.

B-20 has little vegetation or topographic relief with the exception of Lone Rock, a cone-shaped feature rising approximately 160 feet above the surrounding playa and visible for a distance of up to 15 miles. Military activity at the range over the last 50 years has resulted in erosion and spalling of Lone Rock, degrading visual quality. Sand dunes with sparse desert shrub vegetation lie at the base of Lone Rock. Craters from ordnance drops surround Lone Rock, generally decreasing in density with an increase in distance from Lone Rock. The craters contain darker soils when compared to the surrounding playa and often fill with water.

Manmade features on B-20 include spotting towers, visual cueing devices, undeveloped trails, a helicopter pad, and run-in lighting. Ordnance debris litters the training range on and near Lone Rock and the targets. While the debris and military facilities provide visual stimuli, they are out of character with the surrounding landscape and not consistent with the watershed. However, viewer

sensitivity in the region is low because of the sparse population and distance of B-20 from major roads and other sensitive receptors.

3.12 PUBLIC HEALTH AND SAFETY

The greatest threat to public health and safety from NAS Fallon activities at B-20 is unexploded ordnance. To a much lesser extent, exposure to aircraft mishaps also present hazards to public safety. Ground water quality is discussed in Section 3.4.3.

3.12.1 Hazard Analysis Report

The Naval Air Station Fallon Ranges Hazard Analysis Mitigation Report, September 1995, is discussed in Section 1.6.4. The safety footprint for B-20 is within the existing training range boundary as shown on Figure 1-5 (US Navy 1995g; US Navy 1995h).

3.12.2 Unexploded Ordinance

Approximately 10 percent of live ordnance dropped at B-20 fails to detonate. As a result, live unexploded ordnance is present at the surface and buried at various depths due to impact and wind erosion covering the armaments. Even practice/inert ordnance, such as practice bombs filled with concrete, may contain an explosive spotting charge that could fail to detonate. NAS Fallon performs ordnance surface sweeps at B-20 three times per year. These sweeps have not found ordnance off of B-20. As discussed below, technology for detecting subsurface unexploded ordnance over large areas has not been proven at NAS Fallon training ranges.

As a result of off-range ordnance found at other NAS Fallon training ranges, the BLM requested that the Navy provide an analysis/feasibility report concerning what subsurface sweep technology currently exists, what would be required to completely sanitize the lands, and the specific location, type, and scope of subsurface contamination. In April 1990, the Department of the Navy provided the BLM with information concerning subsurface ordnance detection. The information stated that the only method available for subsurface detection was a hand-held magnetometer that searched a width of approximately one meter. This device was designed to locate large ferrous objects in a centralized area and was not suited for large-scale sweep operations. Helicopter-mounted ground-penetrating radar was tested at Hawthorne Army Ammunition Depot to detect subsurface waste. The method proved ineffective because the radar was only able to penetrate about three meters into the subsurface, limited by the sandy soil conditions that tend to scatter radar energy (AES 1995). The Army also has procured a Stoles sub-surface search system to be used in base closures. It is capable of searching 20 acres of flat terrain per day to an average depth of 10 feet with approximately 60 percent reliability. The Naval Research Laboratory has developed an ordnance remediation technology, the Multi-sensor Towed Array Detection System (MTADS), with an estimated efficiency of 96 percent. MTADS

uses magnetometers and pulsed sensors mounted on platforms that are towed by all-terrain vehicles. The technology locates, identifies, and categorizes military ordnance at its probable maximum self-burial depth. MTADS was tested at Badlands Bombing Range in South Dakota and demonstrated at test ranges around the county. MTADS, however, has not been tested on terrain and soil conditions similar to those in the Fallon region. NAS Fallon is working with the Walker River Paiute Tribe to investigate the potential use of the technology on off-range ordnance lands at NAS Fallon.

Regardless of the detection method, once any ordnance is located, it must be unearthed and rendered safe or detonated from the surface. Even if proven technologically feasible, the Navy believes that because of the high cost of cleanup and the high value of B-20 to the Navy as a training range, decontamination of B-20 cannot be justified at this time.

3.12.3 Aircraft Operation

The purpose of the B-20 training range is to train aircrews in air-to-ground ordnance delivery. The training range is used year-around, except during scheduled maintenance. Over the history of the training range, many different types of ordnance have been used, including flares, ammunition from aircraft machine guns and cannons, air-to-ground rockets, and bombs up to 2,000 pounds. Aircraft also may jettison fuel tanks. Chaff is not currently used at B-20. Military operations pose an extreme hazard to public safety; therefore, the training range is clearly posted and public access is restricted. Unexploded ordnance is present at B-20, although the exact amount, type, and location cannot be determined because of access and technological limitations. The greatest concentration of this material is in the vicinity of targets and near Lone Rock. Based on ordnance sweeps, all ordnance is believed to be contained within the training range boundaries.

3.13 TRANSPORTATION

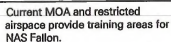
This section discusses regional and local roads in Churchill County and regional airports. Airspace associated with B-20 also is discussed.

3.13.1 Road Transportation

No major highways access B-20. The nearest major highway, Alternate Highway 95, runs in a north-south direction approximately 18 miles west of B-20.

3.13.2 Air Transportation

The nearest civilian airport to B-20 is the Toulon/Derby airport, a small airport in Pershing County. Figure 3-5 presents military airspace used by NAS Fallon, including airspace associated with B-20. During training activities, other airways are established in the region for civilian aircraft use.

 Military reservation Indian reservation VRF Corridor

MOA Military Operations Area

R-4803S Restricted airspace

Existing Military Airspace Associated with NAS Fallon

NAS Fallon, Nevada

Figure 3-5

Restricted Areas. Restricted areas are located above and extend beyond the boundaries of NAS Fallon training ranges or target areas. Civilian aircraft can fly in these areas when they are not being used for military training activities. Table 3-5 presents information on the restricted areas associated with B-20 training operations.

Table 3-5
Existing Restricted Areas-Associated with B-20

Restricted Areas	Associated Range	Approximate area (in square miles)
R-4802	B-20	28
R-4813	B-20	<u>531</u>
TOTAL		559

Source: US Navy 1997c

Military Operations Areas (MOAs). MOAs are used for military training activities that do not involve the release of ordnance, such as air combat maneuvers, air intercepts, and aerobatics. Civilian aircraft can use all of the airspace in MOAs anytime, including when military use is in progress. In 1958, for reasons of enhancing flight safety, a visual flight rule (VFR) corridor was created specifically for general aviation needs within the FRTC special use airspace. General aviation aircraft flying by instrument flight rules (IFR) also can use the airspace but in practice are routed around MOAs or separated from military activities occurring in MOAs by air traffic control. The existing MOAs around B-20 are depicted in Figure 3-5. Their sizes are reported in Table 3-6.

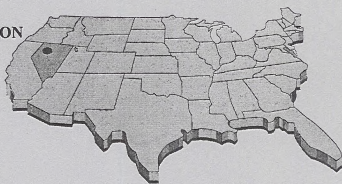
Table 3-6
Existing MOAs in the Region of B-20

MOA	Approximate Area (in square miles)
Carson	171
Gabbs North	<u>3,644</u>
TOTAL	3,815

Source: US Navy 1997c

Military Training Route (MTR) Revisions. The Navy altered 12 MTRs associated with B-16 that terminated in restricted airspace over B-16 (R-4803 N/S). The change altered the terminal legs of six VFRs and one IFR. It also deleted the terminal legs of four VFRs. All affected routes now terminate with entry into B-20. The action reduces low-level military air traffic into B-16, thereby reducing noise levels (US Navy 1995d).

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4.0 ENVIRONMENTAL CONSEQUENCES

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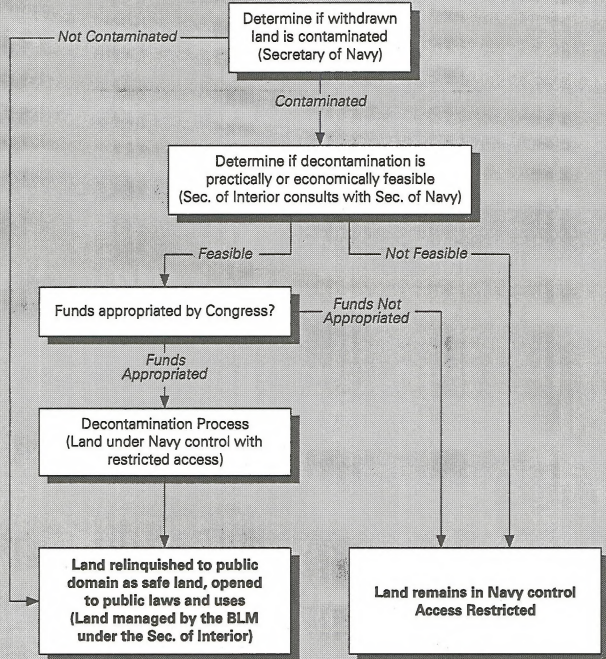
CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

Chapter 4 discusses the potential environmental impacts that may result from the renewal and continued use of B-20 (Preferred Alternative) and from reversion of withdrawn lands within B-20 back to the public domain (No Action Alternative).

Under the No Action Alternative, Navy training activities would cease at B-20 and the decontamination and relinquishment process would begin (Figure 4-1). Given the limited resources for decontaminating such a large area and the uncertainty of technological advances, the timeline for the process cannot be accurately determined. The result of this process has two possible outcomes, as dictated by PL 99-606 (see Section 2.4.2 for legal text). The potential environmental effects from both outcomes are analyzed in this chapter. These outcomes are described below.

- 1) The withdrawn land would remain under Navy control and access would be restricted until decontamination can take place. Once the land is decontaminated and the lands are judged safe to be opened to operation under some or all of the public land laws, the Navy would relinquish control to the Secretary of the Interior. Lands may be opened to public uses as managed by the BLM, with the BUREC retaining existing rights under their withdrawal of lands for the Newlands Reclamation Project.
- 2) If the Secretary of the Interior, after consulting with the Secretary of the Navy, concludes that decontamination is not practically or economically feasible or that the land cannot be decontaminated sufficiently to be opened to operation under some or all of the public land laws, or if Congress does not appropriate a sufficient amount of funds for the decontamination of the lands, the Secretary of the Interior would not be required to accept the land for relinquishment (Section 8[d]). In this case, the Navy would retain control and access would remain restricted.



Source: Tetra Tech 1997

Under the No Action Alternative the land would remain under Navy control until the land is decontaminated and safe for public use.

No Action Alternative Process

NAS Fallon, Nevada

Figure 4-1

This chapter uses the existing B-20 environmental conditions described in Chapter 3 as the baseline for assessing the magnitude of impacts for each alternative. To be consistent with Chapter 3, this chapter has been organized by resource area.

The potential impacts are assessed in proportion to their significance, based on significance criteria defined at the beginning of each resource section. Where significant impacts are identified, mitigation measures are proposed to reduce the intensity of the impact to nonsignificant levels. Potential impacts by resource category and alternative are summarized in Table 4-1.

Table 4-1
Summary of Potential Impacts

Impact Issues	Preferred Alternative	No Action Alternative
LAND USE		
Change in land use	○	○
Conflicts with land use plans	○	○
BIOLOGICAL RESOURCES		
Effects on sensitive species or their habitat	○	○
Effects on nonsensitive species or their habitat	⊖	⊖
Effects from training operation noise	⊖	⊖
GEOLOGY AND SOILS		
Erosion of Lone Rock and sand dunes	⊖	●
Soil contamination	⊖	○
Disturbance and transport of soils	⊖	●
WATER RESOURCES		
Contamination of surface or ground water	⊖	⊖
CULTURAL RESOURCES		
Effects to prehistoric and historic archeological resources	○	⊖
Effects to historic architectural resources	○	○
Effects to traditional cultural properties	○	○

LEGEND:

Level of Impact

- = Significant and not mitigable
- ⊖ = Significant and mitigable
- ⊖ = Not significant
- = None

Table 4-1
Summary of Potential Impacts (continued)

Impact Issues	Preferred Alternative	No Action Alternative
ENVIRONMENTAL JUSTICE AND SOCIOECONOMICS		
Changes in economic conditions (employment, income, business volume, schools, or housing)	○	①
Disproportionate impact to minority or low-income populations	○	○
AIR QUALITY		
Increase in air emissions	○	①
Violation of air quality standards	○	○
NOISE		
Short-term increase in existing noise conditions	○	○
Long-term increase in existing noise conditions	○	○
MINERAL RESOURCES		
Access to mineral resources	①	○
Destruction of mineral resources	①	①
LIVESTOCK AND WILD HORSE MANAGEMENT		
Change in use or management	○	○
RECREATION AND VISUAL RESOURCES		
Access to recreational opportunities	①	○
Recreational values	①	○
Quality of viewshed	①	①
PUBLIC HEALTH AND SAFETY		
Jeopardize public safety	①	●
TRANSPORTATION		
Surface transportation restrictions	○	○
Aircraft restrictions	①	○

LEGEND:

Level of Impact

- - Significant and not mitigable
- ① - Significant and mitigable
- ① - Not significant
- - None

Unavoidable adverse impacts, irreversible and irretrievable commitments of resources, and short-term benefits versus long-term productivity are discussed at the end of this chapter.

4.1 LAND USE

Significant land use impacts could result if an alternative were to conflict with adopted plans and goals of the community or were to result in a substantial alteration of the present or planned land use in an area.

4.1.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts to land use. The existing land use of B-20 is as a weapons delivery target for military training. There are no other users of the site. This land use would continue if the withdrawal were renewed. The training range would remain fenced and access would continue to be restricted; however, opportunities for other land uses are extremely limited. Soil and water conditions restrict agriculture and cattle grazing, mineral resource development potential is limited, and recreational opportunities are limited. Uses on surrounding lands would continue as currently managed by the BLM or BUREC, with no new restrictions as a result of this action. This alternative would not withdraw additional lands or establish additional public use restrictions.

Mitigation Measures

No mitigation measures would be required.

4.1.2 No Action Alternative

Impacts

Restrictions on public access prior to decontaminating and reverting land to the public domain would not result in any significant impacts to land use. Training range land would remain in Navy control and would be restricted from public access until the land could be economically and reliably cleaned of all hazards, primarily unexploded ordnance. This represents no change in land use status over existing conditions.

Reverting B-20 to the public domain would change the land use status at B-20. The change in land use status would be compatible with existing land use plans, which recognize the site as federally controlled. The 14,080 acres withdrawn by the BUREC for the Newlands Reclamation Project that coincide with the Navy withdrawal would not be affected by the Navy's relinquishment of the B-20 land withdrawal. If decontamination is deemed practically and economically feasible such that the land can be decontaminated sufficiently to be opened to operation of some or all public land uses and if the BLM assumes management, the region, with the possible exception of the BUREC withdrawal lands, may be opened for multiple public uses, including recreation, mining, energy production, and grazing. This type of management would be consistent with the management of surrounding federal lands. The BLM resource management plan would not have to be amended, because it currently lists the Navy withdrawal as an encumbrance. In effect, once the transfer is complete, the encumbrance would be removed.

Although the site would be managed for multiple public uses, the limitations of the geology and soils and the degraded visual condition of the training range would likely preclude much public use. The county has zoned the private land around B-20 as rural resource for the protection and enhancement of natural resources. BLM management of B-20 lands would be consistent with this objective.

Mitigation Measures

No mitigation measures would be required.

4.2 BIOLOGICAL RESOURCES

Significant biological resource impacts could occur if an alternative resulted in the disruption or removal of any endangered or threatened species or its habitat, migration corridors, or breeding areas, loss of a substantial number of individuals of any species beyond normal variability, or a measurable degradation of sensitive habitats, including wetlands. The alternatives are analyzed in accordance with federal and state laws on biological resources, including the Endangered Species Act, Migratory Bird Treaty Act, and Clean Water Act.

4.2.1 Preferred Alternative

Impacts

Sensitive Species and Habitat. Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts to sensitive biological resources. No special-status species or sensitive habitats have been documented within B-20; therefore, no adverse impacts are expected to be incurred by sensitive biological resources at this location.

Nonsensitive Species and Habitat. Under the Preferred Alternative, B-20 would be used as it has in previous years, resulting in no significant impacts to nonsensitive species. There will be no increase in the number of Navy training flights or significantly different flight patterns as a direct result of this alternative. Impacts to nonsensitive resources may occur from destruction of habitat, contamination, or direct mortality. None of these impacts are expected to be significant at B-20.

Continued Navy use of B-20 under the Preferred Alternative could destroy or damage habitats currently used by species for shelter, reproduction, and forage. However, the habitats and lands within B-20 are already disturbed from ordnance and weapons training from previous decades of use. Furthermore, most of the lands within B-20 consist of barren alkali flats and playas, chiefly devoid of plant and animal life. While rainfall and snowmelt occasionally inundate B-20, there are no perennial water sources available for wildlife.

It has been suggested that the bomb craters actually may present additional areas for establishing vegetation by breaking up the alkaline surface into depressions where there is shade and the possibility of accumulated water (US Navy 1980).

With a lack of an established vegetative base and complex food chain, at this time B-20 does not support a diverse or unique range of biological resources.

Other detrimental habitat effects could arise from contamination of areas from chemicals and materials associated with ordnance and debris. Studies on soils at other DOD desert training ranges in Nevada and California show that little to no explosives contamination occurs from ordnance delivery operations (US Air Force 1996b; US Marine Corps 1997). Cluster bombs, which were the primary contributor to explosive compound debris on the ranges tested by the Air Force, are not used on NAS Fallon training ranges. Compared to ordnance dispensed at NAS Fallon training ranges, cluster bombs have a higher concentration of reactive materials and are dispensed by the hundreds, depending upon the type of cluster bomb, over a smaller area. The explosive profile of cluster bombs results in ordnance being projected in multiple directions at impact, which results in ordnance becoming buried in the soils. At NAS Fallon training ranges, fewer bombs are dispensed over a larger area, resulting in lower concentrations of reactive materials contamination than at a cluster bomb training ranges. This suggests that explosives contamination at B-20 would be limited, and if present, have few means (e.g., digestion) to affect biological resources. Sampling of water in craters at B-20 show low to nondetectable levels of inorganic (e.g., metals), soluble, and volatile organic compounds beyond naturally occurring background levels. If such contamination were present, it could inhibit the production of aquatic species but would not be expected to adversely affect terrestrial fauna or avian species that may transit the site and use the craters for a temporary water source. When explosive compounds are present, they tend to break down relatively quickly. Most explosive compounds are nitrated organics that hydrolyze in alkaline environments. This process is sped up with the presence of water. The alkaline conditions at B-20 are organic-deficient; therefore, bacteria in the soil use the organic nitrate benzene as a food source, further reducing the concentration of explosive compounds.

The only way for explosive compounds to migrate out of the range is if there is a large flood event. Such events are rare and when they occur, the dilution of any compounds makes them undetectable with no risk to humans or biological resources. This was illustrated during the 1982 to 1984 flooding of the Carson Sink. The US Geological Survey determined that evaporation and the subsequent concentration of salt lead to the massive fish die-off in 1987 (Rowe and Hoffman 1987). The study found no evidence that ordnance or explosive debris from B-20 contributed to the adverse aquatic conditions. Therefore, continued Navy training activities at B-20 are not expected to have any impacts to plants or wildlife at or near B-20, including the wildlife refuges south of the training range.

Training activities could result in the direct mortality of individuals of a species but would not result in a significant impact. Direct mortality of wildlife species from Navy training activities has not been documented and is not believed to be a

common or significant occurrence. Much of the area affected by training activities is devoid of vegetation, and thus lacks the necessary shelter, reproduction, or forage habitats to which wildlife is attracted. In the unlikely event an individual or small group of individuals is harmed directly by training activities or ordnance, the population as a whole would not be significantly affected.

Training Operation Noise. Extensive studies have been conducted to assess effects on wildlife species (mostly ungulates and birds) resulting from noise (Krausman et al. 1993a, 1993b, 1993c; NDOW 1989; Mancini et al. 1987; Ellis et al. 1991). The most detrimental effect of noise on particular species is disrupting breeding or reproductive activities. Noise has the potential to discourage pairs from commencing breeding activities, and in birds can cause nest abandonment. Physiological changes resulting from noise have been documented in ungulates; however, these changes are not significantly different from other responses and changes that stem from environmental stimuli and are only temporary in nature. It has been documented for both ungulates and birds that most individuals repeatedly exposed to noises become habituated, and thus less reactive to the noises when they occur (Krausman et al. 1993a, 1993b, 1993c; NDOW 1989; Mancini et al. 1987; Ellis et al. 1991). Various instances have been documented, including instances within B-20, that species have become habituated to disruptive noises over time (US Navy 1980). There is little conclusive information on the effects of noise on reptiles and smaller mammals.

An NDOW study published in 1989 found that many of the migratory birds that use the Stillwater National Wildlife Refuge are sensitive to aircraft noise at higher decibel levels. Duck response at an average decibel exposure level of 98 dB resulted in flushing behavior in 13 percent of the aircraft activity occurrences. The green-winged teal, American widgeon, and pintail were considered the most sensitive species (NDOW 1989). These species are present from mid-summer to December and from February through April (US Navy 1995d).

Snow geese and Canada geese also were monitored for behavioral response to low-level aircraft activity. Snow geese, in flock numbers that ranged from 80 to 4,000 birds, responded by flushing in 32 percent of the observed exposure incidents. Decibel levels that produced the flushing response in snow geese were not reported (NDOW 1989). Snow geese arrive about the second week of October and are gone by early December. This species returns in mid-February and departs by the end of March (US Navy 1995d). Snow geese are common on Carson Lake but rarely exist in the Stillwater National Wildlife Refuge. Canada geese did not respond to aircraft activity by flushing. Recorded noise levels to which Canada geese were exposed averaged 91 dB (NDOW 1989).

Observations of overall shorebird response to low-level aircraft activity at an average exposure level of 91 dB resulted in a flushing response in 12 percent of the incidents. Migrating long-billed dowitchers were the only species observed to

flush. Shorebird species considered not sensitive to aircraft activity include blue heron, double-crested cormorant, eared and western grebes, and American avocet (NDOW 1989).

The findings of the NDOW study are consistent with the conclusions of another study that found noise levels above 90 dB are likely to cause adverse behavior in wildlife, including startle responses, freezing, and flight away from the noise. Levels below 90 dB created much less aversive behavior (Harrison 1984). A study conducted by the University of Florida found no demonstrated effect of low-level (less than 500 feet above ground level) jet aircraft overflights on the establishment, size, and reproductive success of wading bird colonies in Florida (Black et al. 1984).

Lands up to 6.7 miles from the impact area may experience noise levels of 65 dB during ordnance delivery (US Navy 1980). Noise levels below 65 dB are generally considered acceptable for natural areas and animal breeding (US Navy 1982b). The Fallon and Stillwater National Wildlife Refuges are over 10 miles from the target impact areas. Therefore, birds at the refuges and migrating through the region are not exposed to noise levels that would cause long-term aversive behavior. Birds transiting B-20 during Navy operations may incur short-term startle effects. This is not anticipated to have an impact on migration routes, patterns, or populations. Likewise, wildlife on B-20 may have startle reactions, but habituation is likely over time. Wildlife outside of B-20 would not be impacted by continued use. No significant impacts would result to wildlife or avian species from noise under the Preferred Alternative.

Pursuant to FAA recommendations to minimize noise impacts on wildlife, all Navy flight operations over wildlife refuges occur above 3,000 feet above ground level where tactically feasible. Continued operations at B-20 are not expected to impact wildlife or habitat values at the Fallon or Stillwater National Wildlife Refuges.

Mitigation Measures

No mitigation measures would be required.

4.2.2 No Action Alternative

Impacts

Under the No Action Alternative, the Navy would not apply for a renewal of the withdrawal at B-20, and on November 6, 2001, ordnance delivery training on the land would stop. Ceasing ordnance delivery training at B-20 could have minor, positive, or no effects on area habitat and wildlife. Foremost, and perhaps most unknown, would be the changes in and potential recovery or expansion of vegetation, habitats, and subsequent wildlife use at B-20.

Although uncertain, vegetative recovery may be possible if ordnance activities ended at B-20. Several varieties of playa- and alkali-adapted vegetation do exist in the region, and others may have historically been present on B-20. Isolated patches of such vegetation are currently present at B-20, but propagation may be limited due to the activities that have occurred at B-20 over the past few decades. The area is no longer solely an uninterrupted hardpan plain of alkali flats. The ordnance drops have diversified the landscape, creating craters and depressions where water can collect and where some shade is provided. It has been shown that in areas of human disturbance, black greasewood dominates vegetative diversity on sodic dunes. The removal of the disturbance could increase diversity with Indian ricegrass, needleandthread, and fourwing saltbrush. Other invasive species, such as cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola* sp.), also could become established (NCRS 1989).

If vegetation expansion and diversification occurs, microhabitats could develop that would better support existing wildlife and new transient species. Although populations of such species may not significantly increase in an arid environment such as the one at B-20, some of these populations may stabilize and become more robust.

The absence of Navy ordnance drops at B-20 would lead to reduced noise levels at the training range. Although noise has not been proven to have significant effects on populations at or near B-20, the reduction in noise could make the area more favorable for transit and foraging. Aircraft overflights could still occur, but the magnitude of noise would not be as intense as ordnance delivery activities.

During the decontamination process, much of the existing habitat could be destroyed. This would be a short-term impact, as natural processes would eventually reclaim the landscape. Given the poor condition of the existing habitat, this adverse impact is not considered significant. Public use of the area would have negligible to minor impacts on biological resources. The greatest effect would be from ORV use, which could destroy vegetation and startle wildlife.

Mitigation Measures

No mitigation measures would be required.

4.3 GEOLOGY AND SOILS

A significant geologic impact could occur if an alternative exposed people to an increased level of geologic hazards, such as seismic shaking, slope instability, and land subsidence, or resulted in a change in the availability of a geologic resource, such as soils, geothermal resources, and geomorphic features. Contamination of soils also would constitute a significant impact.

4.3.1 Preferred Alternative

Impacts

The renewal of withdrawn lands at B-20 and continued Navy use would not have any significant impacts to soil conditions or geological resources. Continued use of the training range would result in the continued spalling and erosion of Lone Rock. Erosion is common in this region and rocks of similar composition, texture, and age are widespread in the Stillwater Range; therefore, while this is an adverse impact, it is not considered geologically significant.

Implementing the Preferred Alternative also would result in additional cratering of the dunes and playa surface. Therefore, training activities would continue to create new craters and disturb soil conditions, having a continued adverse impact on soil conditions. This impact is not considered significant because the surface area is already highly disturbed with craters and the affected soils have no agricultural value, wildlife habitat, or recreational value.

Although no soil samples from B-20 have been tested for contamination, the level of effect is expected to be minimal. Testing done at other long-term desert bombing ranges in California and Nevada, some of which used cluster bombs containing higher concentrations of munitions not used on NAS Fallon training ranges, found low to nondetectable levels of explosive residues in the soils (US Air Force 1996b; US Marine Corps 1997). Levels at B-20 are expected to be similar to or less than these results.

No oil, gas, or geothermal resources are extracted at B-20; therefore, the Preferred Alternative would not impact these resources.

Mitigation Measures

No mitigation measures would be required.

4.3.2 No Action Alternative

Impacts

Implementing the No Action Alternative would have a short-term beneficial impact to soil conditions during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training. This would reduce erosion rates of soils and Lone Rock.

Removal of unexploded ordnance would result in significant but mitigable impacts on soils. The decontamination process would require extensive earth-moving, disturbing much of the surface to subsurface area of the training range. These disturbances would involve much of the playa and all of the sand dunes surrounding Lone Rock. These activities would increase erosion and interrupt the natural deposition and shifting of sand. Once decontamination is complete, natural processes would gradually reclaim the disturbed surface, making this an impermanent impact.

Significant but mitigable impacts could result from wind erosion distributing soil onto adjacent lands. Surrounding lands would be impacted as the disturbed soils are subjected to wind erosion, which could carry finer particles to other regions before settling.

Reverting B-20 to the public domain would not result in significant impacts from increased public use. The most probable and dominant public use of B-20 would be for ORVs. Given that these vehicles operate off-road, they disturb surface soils, subjecting soils to wind and water erosion. Playa is generally not as suspect to erosion from these activities, but the dunes would be noticeably impacted. Natural dune deposition and shifting would prevent significant erosion.

Mitigation Measures

Construct wind erosion barriers around the decontamination areas and cover soils to prevent transport of sediments onto adjacent public lands.

4.4 WATER RESOURCES

A significant water resource impact could occur if an alternative resulted in a reduction of water quantity or water quality, caused a demand for water in excess of system capacity, resulted in substantial flooding, or exposed people to existing flood hazards.

4.4.1 Preferred Alternative

Impacts

The renewal of withdrawn lands at B-20 and continued Navy use is not expected to have any significant impacts on water quantity or quality. The natural water quality in the Carson Sink is poor; ground water at B-20 is too saline for irrigation and is not potable. There are no water developments at B-20, and surface water, when present, is not used for human consumption, irrigation, or any other productive uses. Given the distance to any active producing well and the fact that B-20 is in a regional hydrologic sink, subsurface migration of water, such as towards the Fallon and Stillwater National Wildlife Refuges, would not be expected (SAIC 1991, Maurer et.al. 1994). Furthermore, the playa tends to be clayey with poor natural drainage and very slow internal drainage, restricting the lateral movement of surface water to the ground water table.

Water sampling at B-20 indicates that Navy actions have not resulted in inorganic (e.g., metals), soluble, or volatile organic compound contamination. No sampling for explosives has been undertaken at B-20, but soil sampling performed at other long-term desert bombing ranges in California and Nevada found low to nondetectable levels of explosive residues in soils (US Air Force 1996b; US Marine Corps 1997). Cluster bombs, which were the primary contributor to explosive compound debris on the ranges tested by the Air Force, are not used on NAS Fallon training ranges. Compared to ordnance dispensed at NAS Fallon, cluster bombs have a higher concentration of reactive materials and are dispensed by the

hundreds, depending upon the type of cluster bomb, over a smaller area. The explosive profile of cluster bombs results in ordnance being projected in multiple directions at impact, which results in ordnance becoming buried in the soils. At NAS Fallon training ranges, fewer bombs are dispensed over a larger area, resulting in lower concentrations of reactive materials contamination than at a cluster bomb training ranges. Therefore, explosive residue is expected to be less at B-20. In addition, these studies tested for total levels, which only poses a safety risk if ingested. Public access is restricted at B-20. The alkaline conditions of the playa at B-20 make explosive compounds less soluble and less mobile. Being primarily organic matter (e.g., nitrate), explosive compounds provide a food source for soil borne bacteria in the organically deprived playa, thereby further increasing the breakdown of the compounds. The isolation of B-20 from water sources and the fact that the Carson Sink is a hydrological drainage basin further reduces the likelihood that any constituents could affect water resources.

Surface and subsurface water in the region flows northeastward, away from Fallon towards B-20. Surface and subsurface water tends to flow from the Fallon and Stillwater National Wildlife Refuges towards B-20 and the Carson Sink. Only during infrequent high water years does the Carson Sink flood to such a degree as to spill over into the Stillwater National Wildlife Refuge. The last large flood event was during the very wet years of 1982 through 1984 when the entire Carson Sink was inundated. The resultant lake remained until April 1988, during which time fresh water fish inhabited the water body until evaporation cause salt concentrations to exceed fish salt-tolerance levels (early 1987). A US Geological Survey study found that naturally occurring salts had adverse impacts to fish (Rowe and Hoffman 1987). There was no evidence of contamination occurring from military activities at B-20. Therefore, during flooding events, any chemical debris from B-20 are diluted to such a degree as to be undetectable and pose no threat to water quality.

While floodwater from B-20 can enter publicly accessible land areas within the Carson Sink, it does not have a significant impact on nearby watersheds or the wildlife refuges to the south. Given the low to nondetectable levels of contaminants found in water sampling, this would not expose the public to contamination on public lands in the Carson Sink. In addition, dilution of any existing constituents would be high and the public use is limited and not of a type that would result in direct exposure, such as fishing, swimming, or consuming ponded water.

Mitigation Measures

No mitigation measures would be required.

4.4.2 No Action Alternative

Impacts

Reverting B-20 to the public domain would have no significant impacts to surface or ground water as potential public uses would not affect these resources. During decontamination procedures, munition residues, if present, could become distributed in the basin during flooding events. However, as noted for the Preferred Alternative, sampling shows low or nondetectable levels of contaminants. This would not constitute a significant impact.

Mitigation Measures

No mitigation measures would be required.

4.5 CULTURAL RESOURCES

For purposes of this analysis, significant cultural resources are those properties listed in or eligible for inclusion in the NRHP. This analysis uses the Criteria of Adverse Effect, as developed by the ACHP in its regulations for the "Protection of Historic Properties" (36 CFR Part 800) in identifying adverse effects. These regulations define an adverse effect as any action that would diminish the integrity of a historic property's location, setting, design, materials, workmanship, feeling, or association. The regulations cite the following examples of effects that would be adverse:

- Destruction of or damage or alteration to all or part of the property;
- Isolation of the property or alteration of the character of the property's setting when that character contributes to the property's qualifications for the NRHP;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or changes that may alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and
- Transfer, lease, or sale of a property, without adequate provisions to protect the property's historic integrity.

Cultural resources not eligible for inclusion in the NRHP might be adversely affected, but such effects would not be considered significant for purposes of this analysis. Guidelines for consultation among the Navy, the Nevada SHPO, and local Native American tribal representatives are presented in the interagency PA and the CRMP for NAS Fallon (US Navy 1993a).

4.5.1 Preferred Alternative

Impacts

Prehistoric and Historic Archeological Resources. The Preferred Alternative would renew the land withdrawal at B-20 for continued use of the training range; it does not propose any new activities on B-20. The Preferred Alternative would not result in any impact to prehistoric or historic archeological resources on B-20 because none were identified during sampling and none are predicted to occur on site (Intermountain Research 1995). The PA among NAS Fallon, the Nevada SHPO, and the Advisory Council on Historic Preservation Regarding the Identification, Evaluation and Treatment of Historic Properties on Lands Managed by NAS Fallon, Appendix 4 (NAS Fallon 1996) accepts that most of B-20 is a high impact area and that it is not likely that any historic or prehistoric archeological properties have survived in the target areas with sufficient integrity to qualify for inclusion in the NRHP. The PA also requires survey in advance of use of any areas not designated as high impact areas and consultation in accordance with 36 CFR Part 800 prior to affecting any cultural resources found in the area.

Historic Architectural Resources. Because no historic architectural resources exist at B-20, there will be no impact from implementing the Preferred Alternative.

Traditional Cultural Properties. There will be no impact on properties of traditional cultural significance. As part of the public outreach program, the Navy held meetings with the Tribal Council and spiritual leaders of the Walker River Paiute Tribe and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony. The purpose of the consultation was to determine if Lone Rock serves as a traditional cultural place or sacred site for the Paiute community, which could make the site eligible for inclusion on the NRHP as a property of traditional cultural significance. Both tribes assessed traditional and current cultural values of the site and found Lone Rock to have no traditional or cultural values to the Paiute community. The tribes' written responses are provided in Appendix D. By letter of April 13, 1998, the Navy advised the Nevada SHPO of its finding that Lone Rock does not qualify for inclusion in the National Register. A copy of the letter is included in Appendix D.

Mitigation Measures

No mitigation measures would be required.

4.5.2 No Action Alternative

Impacts

Prehistoric and Historic Archeological Resources. Implementing the No Action Alternative would cease bombing activities on B-20. Decontamination activities may result in adverse effects to unidentified subsurface resources, but these effects would not be significant because significant archeological resources are not likely to be found at B-20.

Historic Architectural Resources. Because no historic architectural resources exist at B-20, there will be no impacts as a result of the implementation of the No Action Alternative.

Traditional Cultural Properties. Because no properties of traditional cultural significance exist at B-20, there will be no impacts as a result of implementation of the No Action Alternative.

Mitigation Measures

Implement mitigation measures to decontamination activities as required under NAS Fallon's CRMP and PA.

4.6 ENVIRONMENTAL JUSTICE AND SOCIOECONOMICS

An adverse socioeconomic impact would occur if an alternative substantially altered the location and distribution of the population in the region of influence, caused the population to exceed historic growth rates, caused a decrease in employment as to substantially raise unemployment rates or reduce income generation, substantially affected the housing market and vacancy rates, or resulted in the need for new school services. Significant environmental justice impacts could occur if an alternative resulted in disproportionate high and adverse effects to minority or low-income communities.

Consistent with the Secretary of the Navy (SECNAV) Notice 5090.6 of July 26, 1994, and Executive Order 12898, it is the Navy's policy to identify and address disproportionate high and adverse human health or environmental effects on minority and low-income populations. Table 4-2 outlines elements of the Navy policy and the actions taken to address these elements.

4.6.1 Preferred Alternative

Impacts

Socioeconomic Factors. Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts on socioeconomic conditions. There would be no jobs created or lost as a direct result of the action, nor would there be a loss or gain in income generation or business volume. Local government finances would remain consistent with existing levels, as would the demand for schooling, public services, and housing. The region would not experience any in- or out-migration of people due to the action, and demographic characteristics would not change. Therefore, during the short-term, the socioeconomic conditions would remain status quo. Economic opportunities may increase over the long-term because the proposed action would allow NAS Fallon to continue to fulfill its mission and possibly increase in military importance as other military bases are realigned or closed under BRAC actions. This could result in increased regional military expenditures and job creation, representing a beneficial economic effect.

Table 4-2
Environmental Justice

SECNAV Notice 5090.6	Navy Action
Identify the presence of minority and low-income communities in the project's region of influence.	No low-income communities were identified for the proposed action. The region of influence includes Native Americans, specifically members of the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony.
Analyze the human health, economic, and social effects of Department of the Navy actions, including effects on minority communities and low-income communities.	Potential social and economic impacts have been assessed and are discussed in this section.
Ensure that whenever feasible, mitigation measures outlined or analyzed in the environmental impact statement, or record of decision, address significant and adverse environmental effects of proposed federal actions on minority communities and low-income communities.	It was determined that any beneficial or adverse impacts would affect all parts of the population equally for both the Preferred Alternative and the No Action Alternative.
Ensure that opportunities for community input in the NEPA process are provided, including identifying potential effects and mitigation measures in consultation with affected communities and improve the accessibility of meetings, crucial documents, and notices.	Public scoping was conducted in December 1997. Scoping activities included publishing notices in local newspapers, meeting with government agencies and Native American tribes, and holding public scoping meetings.
Ensure that the public, including minority communities and low-income communities, has adequate access to public information relating to human health or environmental planning, regulation, and enforcement.	The Draft LEIS is available to the public at all affected community public libraries. A copy also may be obtained from the Navy upon request. The Navy point-of-contact is listed on the cover sheet at the beginning of this document. All supporting documents are available to the public by request. The Navy consulted with the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony and Walker River Paiute Tribe on the cultural significance of Lone Rock.

Environmental Justice. Impacts to members of Walker River Paiute Tribe, Lovelock Paiute Tribe, and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony were examined, given the proximity of these lands to B-20. The Preferred Alternative would not disproportionately affect the health or economic opportunities of these groups because the action does not involve Native American lands and because Navy operations near the lands would not change from existing conditions. Native Americans have not historically used the Carson Sink for grazing, mining, or recreation in a higher proportion than other segments of the population. The access restrictions placed on B-20 are applied equally to all racial and income groups.

As discussed in Section 4.5, Cultural Resources, the Paiute community does not consider Lone Rock a property of traditional cultural significance, and the continued military use of the site would not impact the cultural identity of the community. The Paiute community feels that due to the degradation of the site, Lone Rock cannot be used in the same manner as it was in the past. Therefore,

continued use would not disproportionately impact members of the Paiute community.

Mitigation Measures

No mitigation measures would be required.

4.6.2 No Action Alternative

Impacts

Implementing the No Action Alternative would have adverse but not significant impacts from relinquishing B-20, potentially resulting in a loss of jobs, income, and business volume. Once ordnance delivery training stops at B-20, the mission of NAS Fallon would not be realized, potentially leading to fewer training activities at the station. This could result in a reduction in the number of people at the station, a decline in the demand for services, and a decrease in regional spending. The result would be direct and indirect adverse impacts on employment, income generation, and local business volume.

If decontamination procedures are adopted, there would be short-term beneficial socioeconomic impacts from employment creation, increased demands for goods and services, and regional spending. Given the technical nature of the decontamination process and the limited labor pool of Churchill County, many of the jobs created for reclamation of B-20 would go to residents outside the region, as would much of the spending. This substantially limits local economic benefits. Therefore, this impact would not fully offset the economic losses produced by training changes at NAS Fallon. Opening B-20 to public land uses would have a negligible to minor beneficial economic impact from increased recreational spending and possible job creation from resource extraction. The amount of recreation that would take place at the site is anticipated to be low, as is the likelihood of productive hard-rock mining.

Minority and low-income populations would not be disproportionately impacted by this alternative. All segments of the population are expected to be affected equally. The decontamination procedures would not disproportionately impact one segment of the population over another.

Mitigation Measures

No mitigation measures would be required.

4.7 AIR QUALITY

Significant impacts to air quality could occur if an alternative resulted in substantially higher air pollutant emissions or caused or contributed to violations of federal or state ambient air quality standards.

4.7.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to air quality. B-20 is located in an unclassified/attainment area for all of the criteria pollutants; therefore, no Clean Air Act conformity determination is required for this action. No new air pollutant-generating activities, including no increase in aircraft operations, are proposed under the Preferred Alternative, so no increase in air emissions or violation of federal or state ambient air quality standards would occur.

Mitigation Measures

No mitigation measures would be required.

4.7.2 No Action Alternative

Impacts

Implementing the No Action Alternative would have a short-term beneficial impact to ambient air quality during the time that the Navy retains control, restricts public access, and ceases ordnance delivery training activities. Beneficial effects would be minor based on the remoteness of the area and existing high levels of air quality.

Minor short-term effects to air quality would result from earth-moving activities during decontamination of the training range. Opening the land to public use would result in effects to air quality from recreational activities. Such activities would likely be minimal and would not result in violations of federal or state ambient air quality standards.

Mitigation Measures

No mitigation measures would be required.

4.8 NOISE

Significant noise impacts could occur if an alternative exposed existing noise-sensitive land uses to levels of noise in excess of established land use compatibility criteria, generated substantial new sources of noise, or introduced new noise-sensitive land uses to areas with existing high levels of noise.

4.8.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not affect ambient noise conditions in the region and would have no impacts to noise levels. The primary source of noise associated with B-20 is aircraft and ordnance delivery activities. Currently, there are no proposals to change the types or numbers of aircraft using the training range. Similarly, there are no plans to change the type of ordnance dropped at the training range or to substantially change aircraft flight patterns. Military training operations would continue as before, producing similar

noise patterns. Exploding ordnance and ingress and egress aircraft would continue to be audible over most of the northern portion of the Carson Sink. Based on noise studies, lands up to 6.7 miles from the impact area may experience noise levels of 65 dB during ordnance delivery. This is an acceptable and compatible level with surrounding lands. Based on Navy guidelines, noise levels below 75 dB are compatible with public land uses, including recreation, mining, livestock grazing, and ORV activities. There are no residences or other sensitive receptors near the training range. The closest sensitive noise receptors to B-20 are the Job Peak Wilderness Study Area and Stillwater Wilderness Study Area, both located in the Stillwater Range, and the Fallon National Wildlife Refuge, Stillwater Wildlife Management Area, and Stillwater National Wildlife Refuge. These areas are located over 10 miles from the targets in B-20. Flight operations over these areas occur at over 3,000 feet above ground level where tactically feasible; therefore, noise levels at these areas would remain below 75 dB and well within acceptable ranges.

Mitigation Measures

No mitigation measures would be required.

4.8.2 No Action Alternative

Impacts

Implementing the No Action Alternative would have a short-term beneficial impact to ambient noise levels during the time that the Navy retains control, restricts public access, and stops ordnance delivery training. Local noise levels would drop with the cessation of aircraft ordnance delivery. While this would be a beneficial impact, the magnitude would be minor because of the remote nature of the training range and because there are no sensitive receptors affected by current operations.

Operating large earth-moving equipment would have short-term and localized effects on noise levels. Opening the land to public use would have minor to negligible effects on noise conditions. ORV use would produce audible localized noise, and while sometimes exceeding 70 dB, this noise would be short-term and transitory. Noise produced during decontamination activities and public use would not exceed existing levels; therefore, they are considered to be a minor beneficial impact.

Mitigation Measures

No mitigation measures would be required.

4.9 MINERAL RESOURCES

Significant mineral resource impacts could occur if an alternative resulted in a substantial change in the availability of mineral deposits.

4.9.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to mineral resources or mining activity. There are no mining claims or operational mining sites on or adjacent to B-20; however, the renewed withdrawal would continue to restrict prospecting. This restriction is not considered a significant impact because no locatable minerals have been identified within B-20 and geologic evidence indicates that it is highly unlikely that any locatable lode minerals exist within the B-20 training range (US Navy 1980; US Navy 1986). A mineral survey of B-20 found no economically valuable deposits of mineral commodities, including brine, clay, gravel, sand, gold, silver, and platinum (US Navy 1986). The only bedrock outcrop within the area is Lone Rock, which is comprised of basalt, a lithology that is a poor host rock for mineralization. No mineralization was recorded during a field inspection conducted in 1980 (US Navy 1980). Several placer claims were located north of B-20 prior to withdrawal; however, no production was recorded from the sites. Considering the distance from any known lode mineral source and the nearly flat surface of the playa, it is unlikely that substantial amounts of metals would have been transported as far as B-20 (US Navy 1980). There are no active nonmetallic mineral leases within B-20, and such activities would not be affected by the Preferred Alternative.

Mitigation Measures

No mitigation measures would be required.

4.9.2 No Action Alternative

Impacts

Implementing the No Action Alternative would have adverse, but not significant, effects on mineral resources resulting from the decontamination process. During this process, surface and near-surface mineral deposits, such as sodium salts, would be disturbed and potentially removed. Given the limited availability and low potential for economically extracting such resources, and given the availability of more regionally productive sites, this impact is not considered significant. While the land is retained in Navy control prior to decontamination, there would be no impacts to mineral resources because current access restrictions would remain in place. If the lands are opened for public prospecting, there is a low potential for establishing valid claims; this opportunity would represent a beneficial impact. Mining activity may require additional regulations to protect prospectors from deep, subsurface ordnance that may remain undetected during decontamination procedures.

Mitigation Measures

No mitigation measures would be required.

4.10 LIVESTOCK AND WILD HORSE MANAGEMENT

Significant impacts to livestock could occur if an alternative resulted in a substantial change in the availability of grazing land or altered existing grazing land, including water access and quality, to a degree that grazing was no longer feasible. Significant impacts to wild horses could occur if an alternative resulted in a decrease of forageable land, resulted in a decrease in water quality or availability, or negatively affected wild horse breeding and foraging patterns.

4.10.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts on livestock grazing or wild horse management. Cattle are not permitted to graze on B-20, and the training range is fenced, which keeps out wild horses. There are no grazing allotments, wild horse management areas, or water developments on or near B-20.

Mitigation Measures

No mitigation measures would be required.

4.10.2 No Action Alternative

Impacts

Implementing the No Action Alternative would not impact livestock or wild horses while the land is under Navy control and during decontamination procedures. Once decontamination is completed, the land could be opened to multiple uses including grazing. The playa area, however, is not suitable for grazing and the few areas that provide vegetation (less than 200 acres) have a poor range production value (NRCS 1986). Therefore, no beneficial or adverse effects are expected.

Mitigation Measures

No mitigation measures would be required.

4.11 RECREATION AND VISUAL RESOURCES

Significant impacts to recreation could occur if an alternative substantially decreased the availability of recreational opportunities in a region or substantially degraded the quality of the recreational experience in a region. Significant impacts to visual resources could occur if an alternative substantially reduced the scenic quality of an area as seen from a viewpoint with high viewer sensitivity.

4.11.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts on recreational opportunities or quality. No public access is allowed on B-20, which would continue under the Preferred Alternative. Limited recreation takes places on lands adjacent to the range, predominately ORV use.

These uses are generally compatible with Navy activities. The Preferred Alternative would not introduce any new restrictions on recreational activities or alter existing recreational values, such as noise levels and visual stimuli. There are no formal plans to increase the number of aircraft, change flight patterns, or use different ordnance at the training range; however, doing so could degrade recreational values in the Stillwater Range, the Stillwater Wilderness Study Area, and the Job Peak Wilderness Study Area.

The Preferred Alternative also would have no significant impacts on visual resources, although continued use would further degrade the landscape, resulting in an adverse impact on the local viewshed. Lone Rock is the dominant visual natural feature in B-20. Continued military use would continue to shatter and erode the rock surface, along with increasing the number of craters in the playa. Manmade features, such as spotting towers, visual cueing devices, and run-in lighting, would remain at the site and new structures could possibly be added in the future. While many of these structures use landscaping and natural paint colors to reduce visual distraction, some remain visible across the flat playa. This impact would not be considered significant because viewer sensitivity is low, the visual character is not outstanding, and the training range is remote and physically removed from sensitive viewpoints, such as highways and other developments.

Mitigation Measures

No mitigation measures would be required.

4.11.2 No Action Alternative

Impacts

Recreational values would increase under the No Action Alternative because the cessation of ordnance delivery training would reduce noise levels in the Stillwater Range, Humboldt Range, and the Stillwater National Wildlife Refuge. Current noise levels, however, are considered compatible with recreational activities. Therefore, this effect would not directly increase recreational opportunities and is considered to be a minor long-term beneficial effect. Recreation at B-20 would remain restricted until the decontamination process is complete and the BLM assumes responsibility for the land. If the land is opened for public use, recreational opportunities would be limited by natural conditions. ORV operators would probably be the predominant recreational users. The BUREC would retain existing rights for the 14,080 acres withdrawn for the Newlands Reclamation Project that coincide with the Navy's withdrawal.

The decontamination process would require large amounts of earth-moving, particularly within the vicinity of the target areas. This short-term adverse visual impact is not considered significant because of the low viewer sensitivity in the area. The sand dunes would be substantially disturbed and much of the surrounding playa would be altered with the creation of topographic features as

soil is scraped and removed. These changes would not be permanent, as natural processes would eventually reclaim the landscape.

Mitigation Measures

No mitigation measures would be required.

4.12 PUBLIC HEALTH AND SAFETY

A significant impact to public health and safety could result if an alternative resulted in increased exposure of people to hazards, increased the probability of a release of hazardous or toxic substances to the environment, or placed additional substantial restrictions on property use due to the presence of hazardous waste or materials.

4.12.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any significant impacts to public health and safety. The site would remain fenced and posted, and the Navy would retain the right to restrict access to ensure that the public is protected from military activities and on-site hazards, including unexploded ordnance. HAZARD analysis of B-20 determined that the safety footprint is within the existing boundary; therefore, there would not be any increased risk to public users of adjacent lands.

No sampling for explosives has been undertaken at B-20, but soil sampling performed at other long-term desert bombing ranges in California and Nevada found low to nondetectable levels of explosive residues in soils (US Air Force 1996b; US Marine Corps 1997). Cluster bombs, which contain higher concentrations of munitions than the bombs used on NAS Fallon training ranges, were the primary contributor to explosive compound debris on the ranges tested by the Air Force; therefore, explosive residue is expected to be even less at B-20. These studies tested for total levels, which only pose a safety risk if ingested. Public access is restricted at B-20. The only means for compounds to migrate off B-20 is during an infrequent flooding event. As discussed in Section 4.2.1, Biological Resources, during such an event any compounds are diluted to a degree to be undetectable and pose no threat to human health and safety. Likewise, ingestion of fish or wildlife that might be exposed to explosive debris is not anticipated to pose a health risk.

Mitigation Measures

No mitigation measures would be required.

4.12.2 No Action Alternative

Impacts

Closure of the B-20 training range would have some public safety benefits in that ordnance drops would stop. This effect would be negligible to minor because the current public risk is minimal, as discussed in Section 3.12.

While the training range is retained in Navy control, the land would remain fenced, posted, and restricted, thereby protecting the public from on-site hazards. Access would remain restricted during any decontamination process. Unexploded ordnance at B-20 can be found on the surface or buried to depths of over 30 feet. Of the unexploded ordnance on the range, an estimated 70 percent is buried. While technology to clean up surface and subsurface ordnance exists, decontaminating B-20 may prove practically and economically infeasible, at least in the near future. If decontamination is adopted and the land opened under some or all public laws, there could remain a hazard from deeply buried ordnance. Any public use that disturbs the subsurface would pose a safety risk.

Mitigation Measures

Restrict public subsurface activity at all or part of B-20. Allow limited subsurface activity pending additional ordnance surveys, if feasible.

4.13 TRANSPORTATION

Significant impacts to transportation could occur if an alternative resulted in significant changes to aircraft or vehicle traffic patterns, the closure of major air routes or roads, or a deterioration in levels of service of area roadways.

4.13.1 Preferred Alternative

Impacts

Renewing withdrawn lands at B-20 and continued Navy use would not have any impacts to regional transportation. Roadways and rail lines would not be affected by the action, and air traffic would be managed as under existing conditions.

Mitigation Measures

No mitigation measures would be required.

4.13.2 No Action Alternative

Impacts

The No Action Alternative would not have any impacts to regional transportation. Roadways and rail lines would not be affected. There would be a beneficial impact to civilian aircraft if the restricted airspace above B-20 also is relinquished; this would allow unimpeded transit over B-20. Civilians currently may transit the airspace if it is not in use for military activities; therefore, this is not a significant change to regional airspace management.

Mitigation Measures

No mitigation measures would be required.

4.14 UNAVOIDABLE ADVERSE IMPACTS**4.14.1 Preferred Alternative**

The renewal of withdrawn lands at B-20 and continued Navy use would not have any significant unavoidable adverse impacts. Access to B-20 would remain restricted to protect the public from existing on-site hazards and from training activities. Continued use would potentially further degrade soil conditions and erosion of Lone Rock. Recreational opportunities and visual conditions would remain the same. Continued use would allow NAS Fallon to conduct operations to meet the military mission, ensuring its role as a vital military training facility.

4.14.2 No Action Alternative

While the land remains under Navy control and ordnance delivery operations cease, there would be no unavoidable significant adverse impacts. The loss of training opportunities could reduce the role of NAS Fallon in the military training program, potentially resulting in lost jobs, reduced income generation, and reduced regional spending. The training range would remain fenced and access restricted, thus public safety would not be jeopardized.

The decontamination process, if deemed practically and economically feasible, and if funding is appropriated, would result in unavoidable adverse impacts, none of which are classified as significant except for short-term disturbance of soils. Large amounts of earth-moving would disturb soils, topography, and surface and subsurface minerals. Residual unexploded ordnance that escapes detection would represent an unavoidable safety hazard.

4.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**4.15.1 Preferred Alternative**

Renewing withdrawn lands at B-20 and continued Navy use would not have any irreversible or irretrievable commitment of resources. The land at B-20 was irreversibly committed to military training over 50 years ago when bombing commenced, particularly bombing of Lone Rock. While continued Navy use would result in additional spalling of Lone Rock and creation of more playa craters, the landscape is already highly disturbed and contaminated with military ordnance. Continued operations would not change the magnitude of this commitment of resources.

4.15.2 No Action Alternative

While the land remains under Navy control and operations cease, there would be no irreversible or irretrievable commitment of resources. The decontamination

process would commit energy resources and irreversibly disturb any surface and subsurface minerals, such as sodium salts.

4.16 SHORT-TERM BENEFITS VERSUS LONG-TERM PRODUCTIVITY

4.16.1 Preferred Alternative

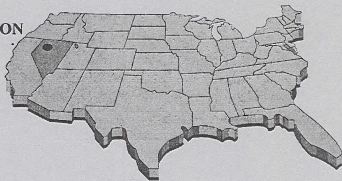
The continued use of the B-20 training range would have short-term benefits by ensuring military pilots are trained to face real-world threat scenarios. The Navy's use of the training range does not preclude future use of the lands for mining, energy production, or other public uses. Technological limitations and economic feasibility, however, dictate that the land probably could not be decontaminated to allow such uses today.

4.16.2 No Action Alternative

Ceasing Navy ordnance delivery training, but continued restricted access, would provide no short-term productive use of the land. If decontamination were possible and implemented, opening the land would provide long-term opportunities for mining, recreation, and other uses.

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NAS
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5.0 OTHER NAS FALLON LANDS

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CHAPTER 5

OTHER NAS FALLON LANDS

PL 99-606 specifies that the Draft LEIS include all lands withdrawn by NAS Fallon in Public Land Orders 275, 788, 898, and 2635, and lands proposed for withdrawal in the Range Safety and Training Public Land Withdrawal EIS (formerly the Master Land Withdrawal EIS), released in draft form for public review in July 1997 (Section 5[b](2)(A)). To satisfy this requirement, this chapter describes the existing environmental and socioeconomic conditions at existing and proposed NAS Fallon withdrawn lands subject to Section 5(b)(2)(A). Chapter 6 evaluates the cumulative environmental effects of these withdrawals. Lands withdrawn at the air station under PLO 6834 after PL 99-606 was enacted also are evaluated. The lands described in this chapter are not subject to renewal under PL 99-606; PL 99-606 only requires the renewal of withdrawn lands at the B-20 training range.

5.1 SITE AND USE DESCRIPTION FOR OTHER NAS FALLON WITHDRAWN LANDS

A description of NAS Fallon-administered lands is provided below. PLOs 275, 788, 2635, and 6834 withdrew land at the air station (Figure 1-4). PLO 898 withdrew the land for training ranges B-16, B-17, and B-19 (Figure 1-3). The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw land around B-16, B-17, and B-19, in the Dixie Valley, and at the shoal site. Table 5-1 lists the enactment date, withdrawn acreage, duration period, and the location of these lands. Appendix B provides the legal descriptions of the withdrawals as filed or published in the Federal Register.

NAS Fallon. NAS Fallon was originally established in 1942 by the US Army Air Corps and was transferred to the Navy in 1943. The airstrip was operated by a Department of Interior use permit until PLOs 275, 788, 2635, and 6834 (withdrawn after enactment of PL 99-606) provided 3,927 acres of withdrawn land (Figure 1-4). The entire airstrip runway system and most of the support and housing facilities are located on these lands. In 1952, the Navy began acquiring

additional land around NAS Fallon to prevent public encroachment and reduce exposure to the hazards of military flight operations. The Navy acquired an additional 3,945 acres for public and pilot safety to manage foreign object damage, fire, and dust control on lands adjacent to the airfield. Approximately 3,595 of these acres are outleased for agricultural production and fire suppression while the remainder are used for housing and support facilities.

Table 5-1
Existing and Proposed Withdrawn Lands Supported by NAS Fallon

PLO/PL Number	Enactment Date	Withdrawn Acreage	Location of Withdrawal	Term ¹
PLO 275	April 23, 1945	160	NAS Fallon	In perpetuity
PLO 788	January 10, 1952	2,400	NAS Fallon	Indefinite
PLO 898	June 12, 1953	17,280	B-16	Indefinite
		21,400	B-17	Indefinite
		17,332	B-19	Indefinite
PLO 2635	March 20, 1962	967	NAS Fallon	Indefinite
PLO 6300 ²	July 22, 1982	None	B-17	Indefinite
PLO 6834	February 11, 1991	400	NAS Fallon	20 years
Proposed Range Safety and Training Public Land Withdrawal ³	—	127,365	Around B-16, B-17, and B-19, shoal site, and the Dixie Valley area	25 years

1. "Indefinite" is defined as the term ending only when the lands are "no longer needed by the Department of the Navy for the purpose for which they are reserved, such as military training and support." If terminated, the withdrawn lands would return to BLM or BUREC jurisdiction.
2. Amends PLO 898 by redefining the legal description of B-17. No acreage change.
3. The proposed Range Training and Safety Public Land Withdrawal EIS would withdraw an additional 10,400 acres around B-16, 33,400 acres around B-17, 12,200 acres around B-19, 68,600 acres in the Dixie Valley area, and 2,765 acres at the shoal site.

B-16 Training Range. The B-16 training range was established in 1953 when PLO 898 authorized the indefinite withdrawal of 17,820 acres to support the Navy training mission. The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw an additional 10,400 acres around B-16. The closest of the four training ranges to NAS Fallon, B-16 allows for minimal travel time, thereby maximizing training time. The training range is also the only training area in the FRTC independent of commodore airspace (restricted and military operations area airspace over B-17, B-19, and B-20 that is in use during air wing training events). This provides exclusive airspace away from other military operations.

Most of the basic and intermediate training is conducted at B-16. The training range is used for air-to-ground conventional bombing using only practice/inert ordnance. Electronic scoring is available with WISS. The training range contains two bull's-eyes and three spotting towers. The approach to the target is from the north with a southern egress. During CVW training, B-16 is the only training

range available for FRS and visiting squadron training. The Air Force and Marine Corps regularly send aircraft to train at B-16.

Twelve low-level MTRs, which accommodate single aircraft and special strike requirements, used to terminate at B-16 (US Navy 1995d). The Navy realigned these MTRs to terminate at B-20, which resulted in reduced noise levels around B-16. Ingress into B-16 for tactical training is via the restricted airspace above and within the approach of B-16.

B-17 Training Range. The B-17 training range, consisting of 21,400 acres, was established by permit in 1945 and was withdrawn indefinitely in 1953 for Navy use. The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw an additional 33,400 acres around B-17. The training range is adjacent to the Dixie Valley area and in the center of the NAS Fallon Dixie Valley threat environment, allowing for realistic combat training including integrated air and ground training. Like the Dixie Valley area, the training range contains some threat emitters, and in conjunction with the Dixie Valley area, provides a realistic electronic threat environment for aircraft approaching the target for weapon delivery. For example, planes can fly through an EW environment under simulated ground-to-air missile attack conditions prior to ordnance delivery on B-17. The training range is used for strafing, practice/inert and explosive air-to-ground ordnance delivery training, no-drop bomb scoring, close air support artillery spotting, mortar, small arms, and rocket delivery. Live ordnance is dropped only on the high impact target area. The training range also has simulated surface-to-air missile firing and provides for laser ranging and targeting. This is when targets are marked with a laser beam from the ground or another aircraft, and ordnance with a guidance system that follows the point illuminated by the laser is fired. Chaff, a material that jams enemy radar, and flares are dispensed over B-17 and the Dixie and Fairview Valleys by overflying aircraft. The WISS provides electronic ordnance scoring of the bull's-eye.

Contained within B-17 are one strafing banner, one bull's-eye, a high-explosive target impact area for live and practice/inert ordnance up to but not including 2,000 pounds, two staffed EW radar sites, three spotting towers, and mock tactical target sites, including mock enemy tanks, a mock aircraft complex, an army compound, mock aircraft, and simulated industrial building complexes. Some targets are moved to enhance realism and to accommodate training strategies. Remote controlled moving target vehicles, such as tanks or mock missile launchers, are used for targeting but not for ordnance delivery.

B-19 Training Range. The B-19 training range, consisting of 17,332 acres, was established by permit in 1945 and was withdrawn indefinitely for Navy use in 1953 by PLO 898. The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw an additional 12,200 acres around B-19. The training range is used for strafing, laser ranging and targeting, close air support,

mortar, small arms, artillery spotting, and practice/inert and live air-to-ground ordnance delivery training using bombs and rockets. The training range also has facilities to support simulated surface-to-air missile firing. Electronic bull's-eye scoring is available with the WISS. A strafing banner, a conventional bull's-eye, a high explosive impact area, and three spotting towers are contained within B-19. The run-in lines for the training range run west to east for most operations and occasionally run from east to west. Live ordnance up to 1,000 pounds and practice/inert ordnance are dropped on the high explosive impact target area. The southern border of the training range is adjacent to the Walker River Indian Reservation.

Shoal Site. The 2,765-acre shoal site is under the jurisdiction of DOE. The central portion of the site was used to conduct underground nuclear testing and is withdrawn by the DOE. The DOE site is approximately four square miles in size and was used in 1963 to study seismic waves produced by underground nuclear explosions. Deactivation of the site began in 1964. The DOE is currently characterizing and finishing remediation of surface areas so the site may be suitable for unrestricted use. Access to the deep subsurface will remain excluded (DOE 1996). The Navy's use of the 2,765-acre shoal site was established in 1966 via a memorandum of understanding (MOU) with the Atomic Energy Commission (now part of the DOE). The site was used by the Navy for simulated combat search and rescue training, integrated with helicopter support. Navy use of the site terminated with the expiration of the MOU in October 1982.

The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw this land for ground training. The Navy's use has been and would be surface based; DOE approval is required for subsurface disturbances in the shoal site. The shoal site is not equipped with targets, and ordnance is not expended there.

Dixie Valley Area. The portion of the Dixie Valley proposed for withdrawal begins approximately 35 miles east of NAS Fallon and north of US Highway 50 and B-17. The Navy maintains BLM rights-of-way permits for 16 one- to seven-acre EW sites and a central command center, termed "centroid," in the Dixie Valley. The proposed Range Safety and Training Public Land Withdrawal EIS would withdraw 68,600 acres in the Dixie Valley.

Aircraft within the Dixie Valley area perform electronic jamming, chaff and decoy flare dispersion, and defensive maneuvers to avoid detection by simulated radar and missile sites prior to entering B-17. No ordnance is authorized to be dropped on the Dixie Valley area. The Dixie Valley area has associated special use airspace that allows for flights as low as 200 feet above ground level. This allows pilots to perform realistic low-level flights over varying terrain to avoid electronic detection prior to ordnance delivery at B-17. The majority of the advanced strategic combat

training is conducted over the Dixie Valley area, B-17 training range, and B-20 training range, making them the most intensively used areas in the FRTC.

5.2 AFFECTED ENVIRONMENT

This section describes the existing conditions of the lands discussed in Section 5.1. Similar to Chapter 3, this discussion focuses on those resources potentially affected by the withdrawals and on topics that have received public concern.

5.2.1 Land Use

Existing Land Withdrawals

As described previously, land at NAS Fallon has been withdrawn under five public land orders—PLOs 275, 788, 898, 2635, and 6834. PLO 898, enacted in 1953, established the B-16, B-17, and B-19 training ranges. The remaining PLOs withdrew lands at the air station. These withdrawals are depicted on Figures 1-3 and 1-4 in Chapter 1.

NAS Fallon Air Station Land Withdrawals. NAS Fallon is located six miles southeast of the City of Fallon and 70 miles east of Reno. The station lies within the central portion of the Carson Desert in an area commonly referred to as the Lahontan Valley and is surrounded by federal (BLM and BUREC) and private lands.

The withdrawn lands at NAS Fallon are primarily developed and include the aircraft runway system and most of the support and housing facilities. Most of the acquired lands are outleased for agricultural production; the remainder are used for support and housing facilities. The operations facilities, including the runways and aprons, are located in a northwest to southeast configuration through the center of the station. Other land uses, including maintenance, supply, administration, medical, outdoor recreation, personnel support, and housing, are concentrated primarily in two areas—in the west-central portion of the station and in the south-central portion of the station (Figure 5-1).

B-16 Land Withdrawal. B-16 is located approximately nine miles southwest of NAS Fallon and 15 miles southwest of the City of Fallon in the southwestern portion of the Carson Desert. The BLM and the BUREC administer the lands around B-16. The Pony Express National Historic Trail and proposed American Discovery Trail run parallel to the southern border of B-16.

B-17 Land Withdrawal. B-17 is located approximately 35 miles southeast of NAS Fallon in the central Fairview Valley. Highway 50 is just off the northern boundary of the range. The lands immediately south and east of B-17 are administered by BLM and have been closed to public access because of off-range ordinance. The Pony Express National Historic Trail runs parallel to the northern border of B-17.

B-19 Land Withdrawal. B-19 is located 15 miles south of NAS Fallon and west of the Blow Sand Mountains. Highway 95 is parallel to its western boundary and the Walker River Indian Reservation is adjacent to its southern boundary. The lands immediately east of B-17 are administered by the BLM and have been closed to public access because of off-range ordnance.

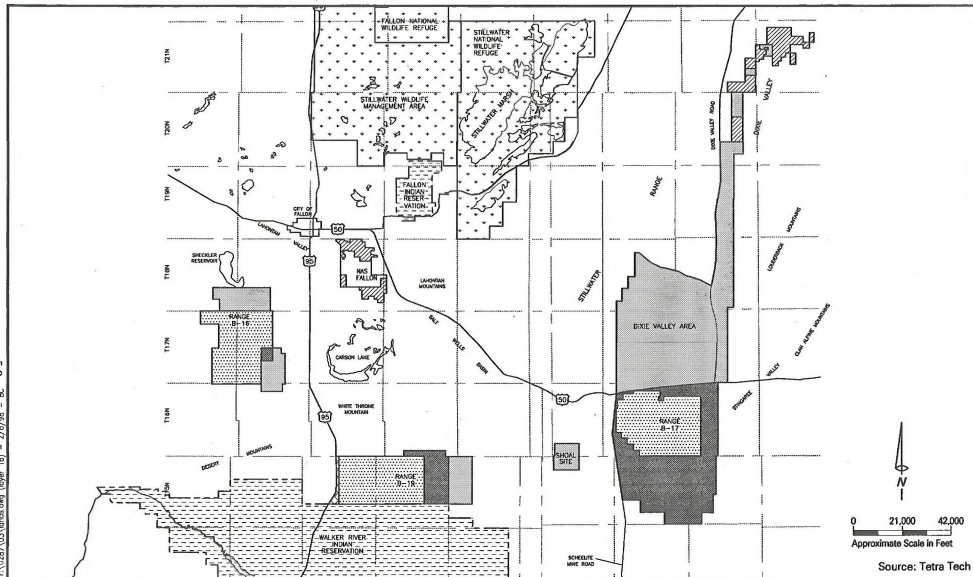
Proposed Range Safety and Training Public Land Withdrawal

Under the proposed Range Safety and Training Public Land Withdrawal EIS, released in draft form in July 1997, the Navy proposes to withdraw 127,365 acres of public land around training ranges B-16, B-17, and B-19, at the shoal site, and in the Dixie Valley area (Figure 1-2). This land withdrawal would not result in an increase in aircraft operations and would not increase the size of the target impact areas. The proposed withdrawn lands would be placed in one of two land use categories to define compatible uses with training operations and public safety (Figure 5-2). Category A lands, identified as containing or having the potential to contain off-range ordnance, would be closed to public access. Category B lands would include all other withdrawn lands and would be open for public use with the exception of up to five fenced EW sites. All withdrawn lands would be managed under a resource management plan developed by the Navy in consultation with the BLM, BUREC, and DOE.

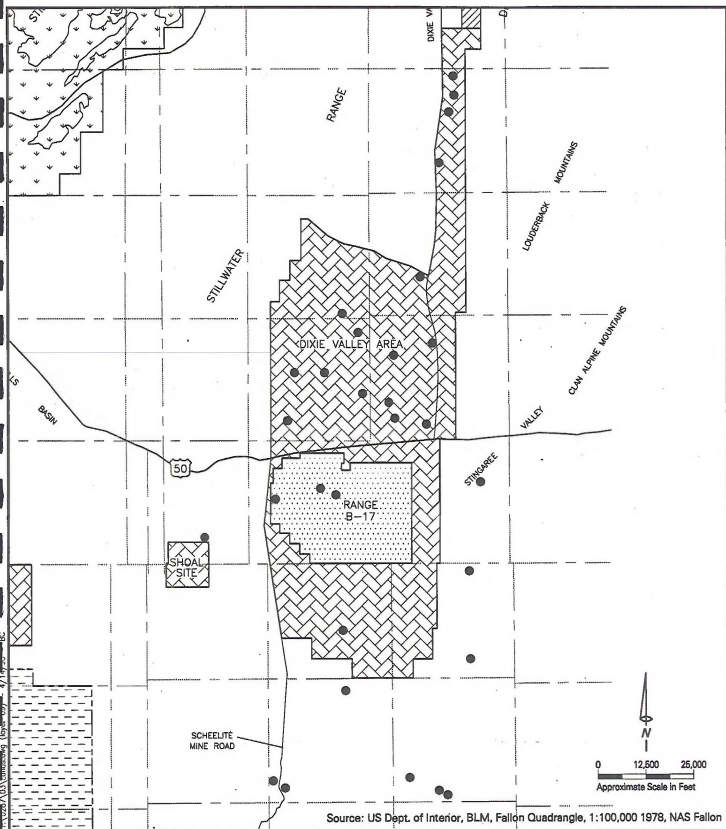
Lands Near B-16. The proposed range safety and training public land withdrawal area would include 6,160 acres north and 4,240 acres east of B-16. All of the proposed withdrawal lands associated with B-16 are federally owned under BLM or BUREC jurisdiction, with some of the BUREC lands being administered by the Truckee-Carson Irrigation District (TCID). The lands are generally open to public access and contain undeveloped roads and trails. The Sheckler Reservoir lies directly north of the lands proposed for withdrawal north of B-16.

The land north of B-16 would be withdrawn because of practice/inert off-range ordnance and for integrated air and ground training. This land would be classified as Category B and open to public use. A portion of the land east of B-16 would be withdrawn for safety reasons and would be classified as Category A. The remainder of the land east of B-16 would be withdrawn for integrated air and ground training and remain open to public access. The training range would continue to be limited to the use of practice/inert ordnance.

Lands Near B-17. The proposed range safety and training public land withdrawal area would include approximately 33,400 acres of land north, south, east, and west of B-17. All of the proposed withdrawal lands associated with B-17 are federally owned and administered by the BLM. There are existing EW sites on B-17 and lands surrounding the training range. Utility lines and undeveloped roads run to the EW sites and some sites are fenced. Figure 5-3 depicts the location of EW sites in the Dixie and Fairview Valleys. The proposed withdrawal lands surrounding B-17 would be classified as Category A and closed to public access.



Source: Tetra Tech



EW sites simulate enemy radar detection systems and radar missile sites, creating a simulated warfare threat environment.

Legend

- Withdrawn lands under PLO-898
- Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
- Navy-acquired lands
- Stillwater National Wildlife Refuge

● Existing EW sites

Existing EW Sites

NAS Fallon, Nevada

Figure 5-3

The proposed withdrawal is for existing and potential off-range ordnance, integrated air and ground training, and EW, TACTS, and visual cueing device sites. Future plans include increased tactical target density, EW site development, and modified target designs. Increased target density and modified target design will not cause an expansion of the target areas themselves.

Lands Near B-19. The proposed range safety and training public land withdrawal area would include approximately 12,200 acres of land east and west of B-19. All of the proposed withdrawal lands associated with B-19 are public lands administered by the BLM. Approximately 6,240 acres of land east of B-19 are and would remain closed to public access because of off-range ordnance and have been fenced or signs have been posted. The remaining proposed withdrawal lands would be Category B. An existing utility right-of-way corridor runs through the lands proposed for withdrawal east of B-19. Lands immediately south of B-19 are managed by the Walker River Indian Reservation.

The Category A area east of B-19 would be withdrawn because of off-range ordnance. The remainder of the land east of B-19 would be withdrawn for integrated air and ground training and placement of EW and visual cueing device sites. The land west of B-19 would be for integrated air and ground training.

The Shoal Site. The 2,765-acre shoal site is proposed for integrated air and ground training, including search and rescue operations. The shoal site is in the Sand Springs Mountain Range and is bounded on all sides by other public lands. The shoal site is not equipped with ordnance targets, and ordnance is not expended there.

All of the proposed withdrawal lands associated with the shoal site are federally owned lands administered by the DOE. The shoal site land would be classified as Category B.

The Dixie Valley Area. The proposed range safety and training public land withdrawal area would include approximately 68,600 acres north of B-17, including a 6,100-acre panhandle connecting the withdrawal to Navy-owned lands in the Dixie Valley. Most of the proposed withdrawal lands associated with the Dixie Valley area are federally owned and are administered by the BLM. The proposed withdrawal lands would surround some private lands associated with patented mining claims (BLM 1986). The BLM-administered lands are open to public access and contain undeveloped roads and trails. Two utility rights-of-way corridors cross the proposed withdrawal area—one running north to south parallel to Dixie Valley Road and one running east to west across the valley. Navy developments include EW sites, which may encompass utility lines, undeveloped roads, and fencing.

The proposed land withdrawal would run adjacent to a portion of the Job Peak Wilderness Study Area (WSA) to the north. Wilderness study areas are those under consideration for a wilderness designation. Lands under wilderness review are managed according to the BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM 1979a), which is designed to protect wilderness values to the maximum extent possible while permitting other land uses, such as grazing and mineral and energy exploration and development, to continue as long as they do not impair those values. The BLM Carson City District Office has not recommended this WSA for wilderness designation, but the final decision on land status will be made by Congress. This area presently experiences Navy overflights as aircraft approach B-17. The Pony Express National Historic Trail and proposed American Discovery Trail run along the southern edge of the proposed withdrawal boundary.

Lands withdrawn at the Dixie Valley area would be for integrated air and ground training and EW, TACTS, and visual cueing device sites. All of the lands would be classified as Category B and would remain open for public access.

5.2.2 Biological Resources

Biological resources discussed in this section include vegetation, wildlife, sensitive species, and sensitive habitats on the project site and surrounding area. The affected area for biological resources encompasses land currently owned or controlled by NAS Fallon and the proposed range safety and training public land withdrawal area. Biological information for the Lahontan and Dixie Valleys is presented where site-specific data are not available.

Vegetation

All lands currently administered by NAS Fallon and the proposed range safety and training public land withdrawal area are within the Carson Desert. Vegetation communities within the existing NAS Fallon lands and proposed withdrawal areas are typical of the Great Basin region. The climate, soils, and topography are similar across the study region; therefore, some of the biological conditions of affected lands are discussed in a regional context.

Elevation, climate, soil properties, and disturbance are the major influences on vegetation community structure within the region containing NAS Fallon lands and the proposed withdrawal areas. Average annual rainfall varies from approximately five inches per year on the valley floors to 20 inches in the higher elevations.

Ecological field investigations conducted between the summers of 1996 and 1997 at NAS Fallon, the existing training ranges B-16, B-17, and B-19, and the Dixie Valley landholdings identified 458 vascular plant species. These species comprised 20 different upland habitat types and eight wetland plant communities on NAS Fallon and training ranges B-16, B-17, and B-19. Twelve additional upland

vegetation types (e.g., industrial, dune, residential) were mapped at NAS Fallon; however, these areas were not sampled due to either limited extent of the habitat, a lack of vegetation, or a lack of accessibility.

The NAS Fallon air station lands contained the highest diversity of vegetation, with 209 different species present. The B-17 training range had 179 different species, the B-19 training range had 89 species, and the B-16 training range had 87 species.

Upland Communities. Of the 30 upland plant communities identified at NAS Fallon, the training ranges, and the Dixie Valley landholdings half of these are distinct and well-defined based on associations of species or unique physiographic criteria. The common plant species-defined communities include Wyoming big sagebrush-common rabbitbrush, black sagebrush, Bailey's greasewood-shadscale/*Galleta*, Indian ricegrass, alkali mixed scrub, black greasewood-Indian ricegrass, and upland rabbitbrush. The physiographically defined communities contain sodic dunes, valley wash, mixed dune scrub, and badlands. Other upland vegetation communities in the region, including the proposed withdrawal areas, include greasewood, saltgrass, and fourwing saltbrush (BLM 1982a, USFWS 1995, US Navy 1997d).

The majority of the communities and habitats that occupy the bulk of NAS Fallon lands are largely dominated by black greasewood (*Sarcobatus vermiculatus*) or Bailey's greasewood (*Sarcobatus vermiculatus baileyi*). These habitat types are not sharply defined associations of species like those described above, but instead are intergrading assemblages whose occurrences are correlated with gradients of topography, soil moisture, soil texture, and alkalinity.

Upland plant community composition differed between the training ranges. Black greasewood-dominated habitat types are widespread on training range B-16 and on the NAS Fallon air station and are less widespread on training range B-19. Bailey's greasewood-dominated habitat types are widespread on training ranges B-16 and B-17 and are of more limited occurrence on training range B-19. Sand dune habitat types are widespread on training ranges B-16 and B-19 and are more localized on the NAS Fallon air station area. Much of training range B-19 is occupied by a mosaic of dune habitats and both black greasewood- and Bailey's greasewood-dominated habitat types that are characteristic of sandy soils. The distinctive physiographically defined badlands habitat type occurs only on training range B-16.

Wetland Habitats. The eight wetland habitats that were identified and quantitatively sampled include saltgrass meadow dominated by inland saltgrass (*Distichlis spicata* var. *stricta*); sedge-spikerush meadow dominated by sedges (*Carex* sp.) and spikerushes (*Eleocharis* sp.); bulrush marsh dominated by bulrushes (*Scirpus* sp.); iodinebush wetland dominated by iodinebush (*Allenrolfea occidentalis*)

and quail bush (*Atriplex torreyi*); forested riparian wetland dominated by willows (*Salix* sp.) and a diverse understory; alkali riparian wetland dominated by inland saltgrass and alkali bulrush (*Scirpus maritimus*); manmade ponds dominated by cattails (*Typha* sp.) along the banks; and manmade ditches dominated by cattails and a variety of grasses along the banks. These wetland habitats are distributed among the NAS Fallon air station and training ranges B-16, B-17, and B-19.

Disturbed Areas. Some of the land in the NAS Fallon region has been disturbed by human activities. These include areas of military disturbance in the vicinity of the training ranges, as well as road and utility corridors, ranch and agricultural areas (within the NAS Fallon air station), and mines. Species composition in these areas is dominated by agricultural species and nonnative invasive species such as Russian thistle (*Salsola kali tenifolia*), cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), Russian knapweed (*Centaurea repens*), white-top (*Cardaria draba*), and other nonnative landscape species. Natural disturbances, such as fire and flooding, also occur periodically on the training ranges.

The Natural Resource Conservation Service (NRCS) described training range condition classes to evaluate the condition of vegetation on the NAS Fallon training ranges. This inventory rated these areas as excellent, good, fair, or poor, based on the present state of vegetation versus the expected natural potential for each area. Table 5-2 details the condition of vegetation on the NAS Fallon training ranges.

Table 5-2
Vegetative Condition on NAS Fallon Training Ranges

Training Range	Year	Vegetative Condition
B-16	1984	Excellent to good
B-17	1985	Good, fair, and poor
B-19	1984	Good

Source: SAIC 1991

Wildlife

Wildlife species that exist within the Churchill County region include invertebrates, fish, amphibians, reptiles, birds, and mammals.

Game Species. Game species in the region include fish, birds, and mammals. The BLM administers programs to promote habitat for game and nongame species.

Game fish species found in reservoirs and deeper wetlands in the region include white bass (*Morone chrysops*), channel catfish (*Ictalurus punctatus*), white catfish (*Ictalurus catus*), walleye (*Stizostedion vitreum*), white crappie (*Pomoxis annularis*), yellow perch (*Perca flavescens*), and largemouth blackbass (*Micropterus salmoides*).

Many waterfowl game species are found at Sheckler Reservoir north of B-16. These include such species as the mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*), and Canada goose (*Branta canadensis*). Small game guzzlers have been installed for chukars (*Alectoris chukar*) and mourning doves (*Zenaidura macroura*) in the Sand Springs Mountain Range, Cocoon Mountains, and Clan Alpine Mountains, and in the Lauderback Hills.

Mule deer (*Odocoileus hemionus*) is the most important big game species in the region and tends to be concentrated in adjacent mountain ranges, such as the Stillwater, Clan Alpine, and Desatoya Mountain Ranges, although it also is found commonly in valleys (NDOW 1982). Bighorn sheep (*Ovis canadensis*) have been reintroduced in the Clan Alpine Mountain Range and also are found in the Sand Springs Mountain Range, the Lauderback Mountain Range, Chalk Mountain, the Fairview Peak/Slate Mountain Range, and the Stillwater Mountain Range. Other game mammals that may be hunted include the mountain lion (*Felis concolor*) and bobcat (*Lynx rufus*). Big game guzzlers are located in the Fairview Peak and Slate Mountain Ranges.

Invertebrates. A wide variety of invertebrates were identified at NAS Fallon, the training ranges, and the Dixie Valley landholdings during the ecological inventory, including annelids (one species), mollusks (two species), crustaceans (five species), arachnids (one species), and insects (21 species). Of the 21 insect species identified, five are special-status species and are discussed further in subsection Sensitive Species. The surrounding lands historically contained freshwater clams, mussels, shrimp, and snails in regional wetlands. Most major orders of aquatic insects are found in the wetlands. It is known that once a year tarantulas migrate along Scheelite Mine Road, just west of B-17. This migration generally starts in September and generally lasts about four to six weeks.

Fish. Approximately 15 species of nongame fish exist in the reservoirs and deeper wetlands in the Lahontan Valley (USFWS 1995). Few surveys for fish species have been conducted in the proposed range safety and training public land withdrawal areas. Common nongame fish species in the region include Asiatic carp (*Cyprinus carpio*), Sacramento blackfish (*Orthodon microlepidotus*), Lahontan tui chub (*Gila bicolor obesus*), Dixie Valley tui chub (*Gila bicolor* spp.), Lahontan red shiners (*Richardsonius egregius*), Lahontan speckled dace (*Rhinichthys osculus robustus*), Lahontan mountainsuckers (*Pantosteus lahontan*), Tahoe suckers (*Catostomus taboensis*), fathead minnows (*Pimephales promelas*), and mosquito fish (*Gambusia affinis*). A survey completed in 1994 involved sampling Dixie Valley tui chub in Dixie Valley and characterized brook trout populations in Horse Creek.

Amphibians and Reptiles. Eleven species of reptiles and two species of amphibians were observed in the qualitative ecological inventory at NAS Fallon, the training ranges, and the Dixie Valley landholdings. Another 12 reptile and two amphibian species were incidentally observed while conducting other surveys.

Amphibian and reptile species common in the proposed withdrawal areas include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis melanoleucus*), and Great Basin rattlesnake (*Crotalus viridis*).

Birds. Bird species in the Lahontan Valley region include waterfowl, shorebirds, colony-nesting and other marsh birds, songbirds, and raptors. Changes in water management, including declining wetlands and increased development in the region, are believed to have adversely affected the abundance and diversity of birds in the area (USFWS 1995).

Quarterly avian surveys were conducted at all NAS Fallon lands. At least one sample point was placed in each major habitat on NAS Fallon-administered lands, except where access was restricted, such as at target impact areas. These sampling events characterized and compared abundance and diversity both between seasons and within seasons.

During the avian surveys, 126 bird species were observed. The highest bird diversities in all areas occurred during the spring and fall migration periods. Avian species richness and abundance was greatest on the NAS Fallon air station and appeared to be related to the presence of water and structural heterogeneity associated with riparian areas. Agricultural areas on and around the air station provided additional habitat diversity, especially when located near trees or water sources. Avian species richness and abundance was relatively low in the more arid training ranges.

Although they exist in nearby wetlands, migrating waterfowl were not observed in great numbers on the NAS Fallon air station, training ranges, or Dixie Valley landholdings. Cinnamon teal (*Anas cyanoptera*) were observed at B-19 during the spring and at the air station during the spring and summer. Mallards (*Anas platyrhynchos*) were observed at the air station during the spring and fall but were not observed at any of the training ranges.

The Lahontan Valley is a major stopover area for migrating waterfowl, with approximately 70 percent of the birds migrating through the state using the regional wetlands (USFWS 1995). Additional waterfowl species common in the region include the American widgeon (*Anas americana*), Canada goose, gadwall (*Anas strepera*), green-winged teal (*Anas crecca*), northern pintail (*Anas acuta*), northern shoveler (*Anas clypeata*), and redhead (*Aythya americana*).

Regional wetlands provide habitat for migrating shorebirds. Shorebirds observed on NAS Fallon lands included American avocet (*Recurvirostra americana*), common snipe (*Capella gallinago*), killdeer (*Charadrius vociferus*), and least sandpiper (*Calidris minutilla*). All four of these species were seen at B-19, while

only the American avocet and killdeer were observed at the air station. Migratory shorebirds were not seen at the other training ranges and likely do not exist there.

Wetlands at the Stillwater National Wildlife Refuge and Carson Lake have been designated part of the Western Hemispheric Shorebird Reserve Network. Shorebirds common in this region (in addition to those observed on NAS Fallon lands) include the black-necked stilt (*Himantopus mexicanus*), long-billed curlew (*Numenius americanus*), western snowy plover (*Charadrius alexandrinus*), and Wilson's phalarope (*Phalaropus tricolor*).

Colony-nesting and other marsh birds may migrate through the region and nest in the nearby wetlands. A number of these birds were observed at the air station and included American coot (*Fulica americana*), black-crowned night heron (*Nycticorax nycticorax*), Forster's tern (*Sterna forsteri*), great blue heron (*Ardea herodias*), great egret (*Casmerodius albus*), pied-billed grebe (*Podilymbus podiceps*), ring-billed gull (*Larus delawarensis*), sora (*Porzana carolina*), and white-faced ibis (*Plegadis chihi*). These species were not observed at B-16, B-17, or B-19. Additional colony-nesting and marsh birds known to occur in the Lahontan and Dixie Valleys include American white pelican (*Pelicanus erythrorhynchos*), black tern (*Chlidonias niger*), California gull (*Larus californicus*), cattle egret (*Bubulcus ibis*), Clark's grebe (*Aechmophorus clarkii*), common moorhen (*Gallinula chloropus*), double crested cormorant (*Phalacrocorax auritus*), eared grebe (*Podiceps nigricollis*), snowy egret (*Egretta thula*), Virginia rail (*Rallus limicola*), and western grebe (*Aechmophorus occidentalis*).

Songbirds were observed on all NAS Fallon lands, with most occurring at the air station. Some of the species observed included Bewick's wren (*Thryomanes bewickii*), horned lark (*Eremophila alpestris*), house wren (*Troglodytes aedon*), rock wren (*Salpinctes obsoletus*), sage thrasher (*Oreoscoptes montanus*), savannah sparrow (*Passerculus sandwichensis*), song sparrow (*Melospiza melodia*), western wood pewee (*Contopus sordidulus*), and yellow warbler (*Dendroica petechia*). Additional species not seen on NAS Fallon lands but that exist in the Lahontan and Dixie Valleys include black-headed grosbeak (*Pheucticus melanocephalus*), MacGillivray's warbler (*Oporornis tolmiei*), northern flicker (*Colaptes auratus*), northern oriole (*Icterus galbula*), and white-crowned sparrow (*Zonotrichia leucophrys*).

Many raptor species that migrate across northern Nevada roost or feed on NAS Fallon lands. Raptor species, including owls, have been observed at the air station and on the training ranges. These species include American kestrel (*Falco sparverius*), burrowing owl (*Athene cunicularia*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), great horned owl (*Bubo virginianus*), merlin (*Falco columbarius*), northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*), short-eared owl (*Asio flammeus*), Swainson's hawk (*Buteo swainsoni*), and turkey vulture (*Cathartes aura*).

Raptors are known to nest in the Lahontan Valley, and could nest within some of the withdrawal lands. Nesting species may include American kestrel, burrowing owl, golden eagle, great horned owl, northern harrier, osprey (*Pandion haliaetus*), prairie falcon, red-tailed hawk, short-eared owl, Swainson's hawk, and western screech owl (*Otus kennicottii*).

Several bird species that are found in this region are not native to the Great Basin and are associated with developed areas. These species can displace native bird species and harm other native wildlife by monopolizing food sources or breeding sites. These include the house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*).

Mammals. Several different species of large and small mammals, including bats, have been observed, trapped, or are likely to exist on NAS Fallon lands. Bats are discussed separately in the next section.

Small mammals have been captured on the training ranges and on the air station. Eleven small mammal species have been trapped within the air station and training ranges B-16, B-17, and B-19. Kangaroo rats (particularly *Dipodomys merriami*) were the most abundant small mammal species on the training ranges, whereas deer mice (particularly *Peromyscus maniculatus*) were most abundant on the more water-rich air station. More species of small mammals were trapped on the training ranges than on the air station.

Several large species of mammals, including desert bighorn sheep, pronghorn antelope, mule deer, and wild mustangs, are likely to exist in the region. Mid-sized mammals, such as weasels, badgers, skunks, jackrabbits, bobcats, and kit foxes, have been directly observed or are likely to exist on all NAS Fallon lands. Large predatory mammals, such as coyotes and mountain lions, have either been observed or are likely to use NAS Fallon lands.

Bats. Surveys conducted during 1996 and 1997 at NAS Fallon, the training ranges, and the Dixie Valley landholdings observed the following bat species: pallid bat (*Antrozous pallidus*), small-footed myotis (*Myotis subulatus*), Townsends big eared bat (*Cory norhinus townsendii*), Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), long-eared myotis (*Myotis evotis*), hairy winged myotis (*Myotis volans*), and western pipistrelle (*Pipistrellus hesperus*). Other species possibly existing in the region include little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), spotted bat (*Eudermma maculatum*), silver-haired bat (*Lasiorycteris noctivagans*), red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), and fringed myotis (*Myotis thysanodes*) (Navy 1997b).

Sensitive Species

Sensitive species are defined as those that are listed by the USFWS or by NDOW as endangered, threatened, proposed for endangered or threatened status, or candidate species of concern. Also included as sensitive species are those listed by the Northern Nevada Native Plant Society. Table 5-3 lists sensitive species found within NAS Fallon existing and proposed withdrawal lands and in the surrounding region. The ecological inventory found only one state special-status species, the sand cholla (*Opuntia pulchella*).

Plants

No endangered or threatened plant species are found in the Lahontan Valley. Four state special-status plant species were identified as potentially occurring within NAS Fallon lands based on location of and habitat within these areas. The four plants are altered andesite buckwheat (*Eriogonum robustum*), sand cholla (*Opuntia pulchella*), Nevada oryctes (*Oryctes nevadensis*), and Nevada dune beardtongue (*Penstemon arenarius*). Only the sand cholla was found on NAS Fallon lands. This plant was identified at three locations in the northwestern portion of training range B-16. One of the three locations contains two individuals of this plant, and the other two locations have one individual each.

Wildlife

Invertebrates. Five special-status invertebrate species have been previously documented as existing on the NAS Fallon training ranges. Hardy's aegialian scarab beetle (*Aegialia hardyi*), Sand Mountain aphodius scarab beetle (*Aphodius* sp.), Sand Mountain serican scarab beetle (*Serica psammobonus*), and Sand Mountain blue butterfly (*Euphilotes rita pallescens*) most likely exist on B-19 and may exist on B-16. The Nevada viceroxy (*Limenitis archippus lahontani*) exists within wetter riparian areas and is likely to be present in suitable habitats on the air station (US Navy 1980). The 1996/1997 ecological inventory identified these special-status insects as having a high potential occurrence at the training ranges, although none were observed (US Navy 1997d).

Fish. One endangered fish species, the cui-ui (*Chasmistes cujus*), and one threatened fish species, the Lahontan cutthroat trout (*Onchorhynchus clarki henshawi*), exist in the region but are unlikely to occur on withdrawal lands since their nearest documented occurrence is at Pyramid Lake over 50 miles existing and proposed withdrawal lands.

Species of concern are those species for which listing as endangered or threatened may be appropriate but for which not enough data are available to support listing at this time. One fish species of concern, the Dixie Valley tui chub, exists in the Dixie Valley and may be present within the withdrawal areas.

Table 5-3
Sensitive Species Potentially Inhabiting the Withdrawal Areas

Common Name	Scientific Name	Federal/State or NNNPS Status ¹	Preferred Habitat ²	Existence at NAS Fallon	Existence in Proposed Withdrawal Lands ³
Endangered and Threatened					
<i>Fish</i>					
Cui-ui	Chasmistes cujus	E/Y	L/S	U	U
Lahontan cutthroat trout	Onchorynchus clarki henshawi	T/Y	S/L	U	U
<i>Birds</i>					
American peregrine falcon	Falco peregrinus anatum	E/Y	W/U/A	Q	O
Bald eagle	Haliaeetus leucocephalus	T/Y	W/R/U/A	Q	O
Other Sensitive Species					
<i>Plants</i>					
Altered andesite buckwheat	Eriogonum robustum	SC/W	U/A	P	P
Sand cholla	Opuntia pulchella	CY	U	P	P
Nevada oryctes	Oryctes nevadensis	SC/W	U	P	P
Nevada dune beardtongue	Penstemon arenarius	SC/W	U	P	P
<i>Invertebrates</i>					
Nevada viceroys	Limnitus archippus lahontani	SC	R	P	P
California floater	Anodonta californiensis	SC	U	U	P
Hardy's aegialia scarab beetle	Aegialia hardyi	SC	U	P	P
Sand Mountain aphodius scarab	Aphodius psammobunus	SC	U	P	P
Sand Mountain blue butterfly	Euphilotes rita pallescens	SC	U	P	P
Sand Mountain serican scarab beetle	Sericapsammobunus	SC	U	P	P
<i>Fish</i>					
Dixie Valley tui chub	Gila bicolor ssp.	SC	L/S	U	P
Lahontan tui chub	Gila bicolor obesus	SC/Y	L/S	U	U
<i>Amphibians and Reptiles</i>					
Northwestern pond turtle	Clemmys marmorata marmorata	SC	R/W	U	U
<i>Birds</i>					
Northern goshawk	Accipiter gentilis	SC/Y	W/R	U	P
Western burrowing owl	Athene cunicularia	SC	U	P	P
Ferruginous hawk	Buteo regalis	SC/Y	W/R/U/A	Q	Q
Western snowy plover	Charadrius alexandrinus	SC	W	U	Q
Black tern	Chlidonias niger	SC/Y	W	U	Q
Western least bittern	Ixobrychus exilis hesperis	SC/Y	W	U	Q
Loggerhead shrike	Lanius ludovicianus	SC	U	P	P
Trumpeter swan	Cygnus buccinator	SC	W	U	P
White-faced ibis	Plegadis chihi	SC/Y	W/A	U	Q
<i>Mammals</i>					
Townsend's big eared bat	Cornorhinus townsendii	SC	U	P	P
Yuma myotis	Myotis yumanensis	SC	U	P	P
Spotted bat	Euderma maculata	SC/Y	U	P	P
Pygmy rabbit	Sylvilagus idahoensis	SC/Y	U	P	P
Small-footed myotis	Myotis subulatus	SC	U	P	P
Cave myotis	Myotis velifer	SC	U	P	P
Long-legged myotis	Myotis volans	SC	U	P	P

Sources: BLM 1983; NDOW 1995a; SAIC 1991; USFWS 1995, 1994a, 1994b, US Navy 1997b

¹Federal Status

E = endangered, T = threatened

SC = Species of Concern

²NNNPS Status

W = watch - potentially vulnerable

³Nevada State Status (NDOW)

CY = protected as a cactus or yucca under state law

Y = state protected

⁴Habitat

W = wetland/marsh

R = riparian

U = upland

A = agricultural

L = lake

S = stream

⁵Existence at NAS Fallon/Proposed Withdrawal Lands

C = confirmed nesting/breeding

O = confirmed occasional visitor

P = possible nesting/breeding

Q = possible occasional visitor

U = unlikely

Amphibians/Reptiles. One species of concern, the Northwestern pond turtle (*Clemmys marmorata marmorata*), exists in the Lahontan Valley but has not been observed and is thought unlikely to exist on existing or proposed withdrawal lands.

Birds. Two avian species that are federally listed as endangered or threatened are found in the region but outside of existing and proposed NAS Fallon-administered lands. These species include the bald eagle (*Haliaeetus leucocephalus*) and the American peregrine falcon (*Falco peregrinus anatum*).

The bald eagle is a federally threatened species. This species is primarily a winter visitor to Nevada. Preferred wintering habitat frequently consists of lakes, reservoirs, wetlands, and rivers associated with regulating reservoirs (NDOW undated). Bald eagles are seen in the region each year between November and April. They are regularly found from December through February at the Stillwater Wildlife Management Area (USFWS 1982) and have been observed at Carson Lake (Saake 1987). The most recent observation was a nesting pair at the Lahontan Reservoir in 1997. The pair successfully incubated an egg, but the eagle did not survive. A nesting pair also was observed at the Lahontan Reservoir in 1998.

The regional bald eagle population is concentrated in the areas of the Stillwater National Wildlife Refuge, Carson Lake, and the Lahontan Reservoir. Timber Lake, located north of the City of Fallon, is the primary bald eagle winter roost site in the region. Other areas frequented by wintering bald eagles include Indian Lakes, S-Line Reservoir, Sheckler Reservoir, and Harmon Reservoir (USFWS 1995).

The peregrine falcon is a federally endangered species. This species has been recorded at Carson Lake and at the Stillwater National Wildlife Refuge (BLM undated; USFWS 1982; USFWS 1995). Individual peregrine falcons have been observed on at least 29 occasions during 1990 through 1997, with no sightings recorded for 1992.

Four avian species of concern were observed during the recent surveys of the NAS Fallon air station and training ranges B-16, B-17, and B-19. These species were the burrowing owl, the ferruginous hawk, the loggerhead shrike (*Lanius ludovicianus*), and the white-faced ibis. The ferruginous hawk and white-faced ibis were seen only during one season at the air station and were not seen within the training ranges. The burrowing owl was seen only on training range B-17, and loggerhead shrikes were seen on training ranges B-16 and B-19, as well as on the air station. Three of the above species of concern, the burrowing owl, ferruginous hawk, and loggerhead shrike, also are known to inhabit the surrounding region and may be found on the proposed withdrawal lands.

Mammals. The only sensitive mammal species observed on NAS Fallon existing and proposed withdrawal lands were bats. Bat species were observed both foraging and roosting.

Sensitive Habitats

The Lahontan Valley supports unique wetlands that include perennial streams (Carson River), perennial freshwater lakes and reservoirs, irrigation canals, and brackish saltwater marshes. The Lahontan Valley thus provides some of the most biologically diverse habitats in the state (USFWS 1995). In the past 25 years, the acreage of wetlands in the Lahontan Valley has ranged from 40,300 in periods of several consecutive years of flooding to 2,400 after a six-year drought. It is estimated that approximately 16,600 acres is the average acreage of wetlands in the region (USFWS 1995). Diversity of vegetation has declined substantially in marshes in the Stillwater and Carson Lake areas within the past 20 years (USFWS 1995).

The USFWS defines wetlands in the Lahontan Valley as primary and secondary. Primary wetlands are the wetlands located within the Stillwater National Wildlife Refuge, Stillwater Wildlife Management Area, Carson Lake, and Fallon Indian Reservation. Secondary wetlands are administered or owned by another agency, organization, or individual. The term "secondary" is not an indication of quality or importance of wetland habitat but indicates those that are not designated as Lahontan Valley wetlands under PL 101-618. Secondary wetlands in the region include those associated with the Fernley Wildlife Management Area, Massie and Mahala Sloughs, Soda Lakes, Old River Reservoir, Sheckler Reservoir, Sagouispe Dam, Harmon Reservoir, S-Line Reservoir, and Indian Lakes (USFWS 1995).

Although several intermittent creeks, springs, and seeps are found within the proposed withdrawal areas, there are only limited areas of riparian vegetation. Common species in the riparian areas of this region include shrub and tree species, such as willows (*Salix* sp.), salt cedar (*Tamarix* sp.), and Fremont cottonwoods (*Populus fremontii*); grass species, such as creeping wildrye (*Elymus triticoides*) and alkali sacaton (*Sporobolus airoides*); and a variety of wetland species, including sedges (*Carex* sp.), rushes (*Juncus* sp.), and cattails (*Typha* sp.).

Based on National Wetlands Inventory (NWI) maps, wetlands within the proposed range safety and training public land withdrawal area include lacustrine wetlands (playas that form shallow lakes), palustrine wetlands (small marshes and ponds), and riverine wetlands (rivers and streams) during saturated conditions. Although classified as a wetland by USFWS, playas are not jurisdictional wetlands under the Army Corps of Engineers definition for the Clean Water Act. Sheckler Reservoir, located north of B-16, is classified as a secondary wetland. The reservoir stores only excess water during extremely high river flows, such as in 1995 and 1996. This area may support a variety of waterfowl, shorebirds, colony nesters and marsh species, and raptors. The bald eagle and American peregrine falcon could

use this area for roosting and foraging. Although salt and alkali flats are unlikely to meet criteria for jurisdictional wetlands, these areas are included as wetlands on NWI maps and support a wide variety of wildlife during saturated conditions. Many other small springs, ponds, and streams are found within the proposed withdrawal lands during saturated conditions.

5.2.3 Geology and Soils

The geology of the NAS Fallon existing and proposed withdrawal lands is discussed in this section in the context of the regional geologic setting. Seismicity, soil erosion, and energy resources also are discussed.

Geology

The NAS Fallon air station, the B-16 training range, the City of Fallon, and most of the populated portion of Churchill County are located in a large alluvial depression known as the Lahontan Valley. The B-17 training range and the portion of the proposed range safety and training public land withdrawal area located in the Dixie Valley are situated in a long north-south trending valley system known as Dixie Valley and Fairview Valley. B-19 is located in a valley known as Rawhide Flats. Figure 5-4 depicts the geology in the region.

Two major active fault systems, the Walker Lane and the Midas Trough, in addition to ongoing basin and range extensional faulting, combine to make the region one of the most seismically active areas in the United States (Churchill County 1995a). The area experienced at least seven moderate-to-large earthquakes between 1900 and 1961.

Soils

Soils at the B-16, B-17, and B-19 training ranges and in the Dixie Valley area vary from well drained and coarsely textured on the slopes to poorly drained and finely textured in the basins and low lake terraces (US Navy 1997b, US Navy 1991a).

The primary NAS Fallon lands requiring erosion control are at the air station and in the Dixie Valley proposed withdrawal area (US Navy 1991a). NAS Fallon air station erosion is associated primarily with the numerous canals flowing through the area and with gullies surrounding agricultural drains. The Dixie Valley is subject to both water and wind erosion. The Dixie Valley Wash has an accelerated erosion problem (US Navy 1997b), and high winds in Dixie Valley have resulted in a wind erosion problem in that area. The majority of the soils occurring on the training ranges are subject to wind erosion when disturbed.

Energy Resources

The geothermal resource potential of the B-16, B-17, and B-19 training ranges have been studied under the direction of the Geothermal Program Office, Naval Weapons Center, China Lake, California (SAIC 1991). In addition, NAS Fallon is pursuing geothermal resource testing at the air station. The resources identified are described by area below.

B-16 and Vicinity. Thermal gradients in the northern half of this training range are higher than normal, and it is possible that geothermal fluids are migrating into the area from Lee Hot Springs to the southeast. Based on these studies, training range B-16 is considered to have marginal geothermal potential but also is considered an area warranting further investigation.

B-17, Dixie Valley Area, Shoal Site, and Vicinity. Thermal gradients in the area of training range B-17 are low; no thermal wells or springs occur in the area, and no hydrothermal alteration or mineralization of the type generally associated with hot springs were noted in the area. Based on these findings, the geothermal potential of training range B-17 is considered to be low. However, the southern part of the Dixie Valley is considered to have the potential for geothermal development. Three deep exploration wells were drilled in this area in 1981 and 1982; no information on these wells is available and no further work has been done in the area. Oxbow Geothermal has developed a major geothermal resource in the northern Dixie Valley, 30 miles to the north, but has no plans to do work in the southern part of the valley (SAIC 1991).

B-19 and Vicinity. Training range B-19 is considered to have better than average geothermal potential; thermal gradients in the range are above average for the Basin and Range and it is possible that geothermal fluids associated with the adjacent Lee Hot Springs extend into the subsurface of the area. What little is known of the geology of the area suggests that any possible subsurface extensions of the geothermal resources would be to the west or east of Lee Hot Springs. There is no known subsurface information in this area that would suggest that the area of the proposed withdrawal has anything other than a speculative geothermal potential (SAIC 1991).

5.2.4 Water Resources

Water resource issues discussed in this section include site-specific surface water and ground water, water quality, and flooding and drainage. Regional hydrologic conditions are discussed in Section 3.4.

Regional Surface Water Conditions

The B-16 training range is located in the southwestern portion of the Carson River Hydrographic Basin. The northeastern tip of the B-19 training range is located in the Carson Desert Subbasin, with the majority of the training range situated within the Rawhide Flats Hydrographic Subbasin. The B-17 training range is

located in the northern portion of the Fairview Valley Hydrographic Subbasin. The Dixie Valley area extends from the northern end of the Fairview Valley Subbasin into the southern end of the Dixie Valley Hydrographic Subbasin. The shoal site lies on the mountain range separating the Fairview Valley Subbasin from the Carson Desert Subbasin. Hydrologic basins are shown on Figure 3-4.

Much of the surface hydrology of the area is controlled by manmade diversions for agricultural purposes. In 1904 the US Reclamation Service (now the Bureau of Reclamation) diverted Truckee River water southward through the 32-mile long Truckee Canal to the Lahontan Reservoir on the Carson River to support development of the Newlands Reclamation Project in the Carson Desert. The Newlands Reclamation Project irrigation and drainage system is operated by the TCID, which irrigates about 56,000 acres of land in the Carson Desert. The Newlands Reclamation Project includes over 10 storage and regulating structures, 340 miles of canals and laterals (mostly unlined), and about 350 miles of open drains that route return-flow and shallow ground water seepage to the Carson River and wetlands at the Stillwater Wildlife Management Area and Carson Lake.

In the period from 1966 to 1991, diversions from the Truckee River averaged approximately 143,000 acre feet per year (AFY). Flows in the main stem of the Carson River above Lahontan Reservoir averaged about 266,000 AFY from 1911 to 1991. Total releases from the reservoir averaged about 385,000 AFY from 1966 to 1991. Over half of this water was lost to evaporation or infiltration, with about 170,000 AFY actually delivered to irrigation headgates. Of this, about 110,000 AFY was consumed by crops, with the remainder leaving with degraded quality as seepage to the ground water table or as return flow via the drains. Major annual variations occur in the availability of Newlands Reclamation Project water depending on precipitation in the upper watersheds in the Carson and Truckee River basins.

PL 101-618 and Operating Criteria and Procedures for the Newlands District aim to improve efficiency of water use in the district, which would reduce the quantity of water reaching the Lahontan Valley wetlands. However, PL 101-618 also directs the Navy to conserve irrigation water on its Greenbelt Area and transfer any water not needed for irrigation to the USFWS for use in wetland enhancement if doing so doesn't affect the mission of NAS Fallon. In addition, the USFWS has begun a water rights acquisition program intended to divert up to 125,000 AFY of water from irrigation to the wetlands, thereby improving water quality at the wetlands.

The air station was mapped for flood hazards in 1985 by the Federal Emergency Management Agency (FEMA). FEMA noted that two areas on the eastern side of the station were subject to 100-year flooding. The remainder of the station was mapped as not subject to 100-year flooding. No flood hazard mapping has been done for the training ranges or the proposed range safety and training public land

withdrawal area. It is expected that periodic flooding occurs along the washes in these areas.

Regional Ground Water Conditions

The Carson Desert ground water system can be characterized as consisting of the following four aquifer systems:

- 1) A shallow aquifer system extending from the land surface to a depth of about 50 feet;
- 2) An intermediate aquifer system extending from a depth of about 50 feet to a depth of between 500 and 1,000 feet below the land surface;
- 3) A deep aquifer system extending from below the intermediate alluvial aquifer system to a depth of about 2,200 feet below the ground surface; and
- 4) A basalt aquifer underlying the alluvial material throughout much of the basin but extending upward into the sediments as a plug to a depth of 200 to 600 feet below the land surface north of the air station.

The alluvial aquifer systems are characterized not on the basis of lithology but rather on differences in water chemistry and salinity. The four aquifers are all hydraulically connected, and changes in one are expressed in others.

The shallow aquifer system generally contains high, though widely variable, levels of total dissolved solids (TDS), which tend to increase from west to east. TDS ranges from approximately 250 milligrams/liter (mg/l) west of Fallon to more than 1,000 mg/l east of Fallon, to over 40,000 mg/l near Carson Lake, and to more than 90,000 mg/l at Stillwater wetlands discharge points. The State of Nevada criteria for agricultural use and for beneficial use by wildlife is 3,000 mg/l. In addition, concentrations of dissolved arsenic generally exceed state and federal drinking water standards of 50 micrograms/liter (μ /l), ranging from less than 50 to over 150 μ /l. Water quality of the shallow aquifer is generally unacceptable for human consumption. Near the Stillwater Wildlife Management Area, concentrations of dissolved solids, arsenic, and uranium exceed drinking water standards for the State of Nevada and criteria for agricultural use and beneficial use by wildlife (US Geological Survey [USGS] 1994).

The intermediate aquifer has somewhat higher water quality than the shallow system, with TDS concentrations ranging from 100 to 1,000 mg/l within five to 12 miles of Fallon, and as high as 8,000 mg/l near the Stillwater Wildlife Management Area. This aquifer has recently been tapped for domestic uses, with nearly 500 new wells drilled since 1985.

The deep aquifer has high dissolved solids concentrations, with levels ranging from 1,000 to over 5,000 mg/l. This aquifer has not been tapped for irrigation or domestic uses.

The basalt aquifer is the main water supply source for the City of Fallon and the air station. It is a mushroom-shaped volcanic plug enclosed by sediments. Present withdrawals of about 3,000 AFY have caused a drawdown of 10 feet since pre-pumping periods (USGS 1994). Water quality data show an increasing trend of chloride and arsenic concentrations and decreasing calcium concentrations from 1962 to 1992. The source of the chloride and arsenic could be inflow from surrounding aquifers or inflow from deeper in the basalt aquifer itself. It should be noted that increasing arsenic concentrations in the shallow aquifer may be attributable to dissolving minerals due to the rise in the shallow water table from irrigation water and associated seepage.

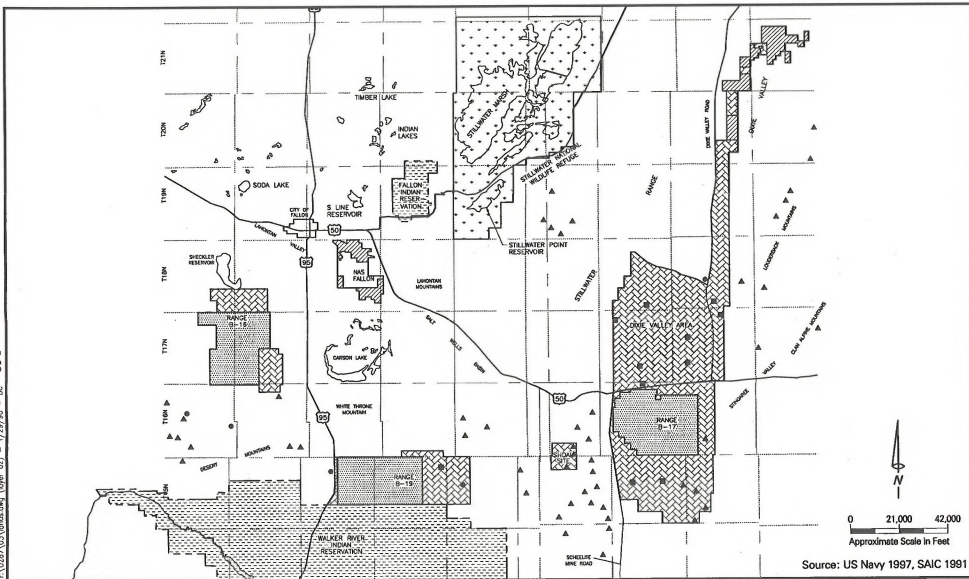
Site-specific Hydrologic Conditions

This section discusses the surface and ground water conditions at the NAS Fallon air station and training ranges. The proposed range safety and training public land withdrawal areas are discussed as an extension of each training range given the geological and hydrological connectivity. Important water resources in the region are developed springs, wells, storage tanks for livestock, and guzzlers for wildlife. These water developments are shown on Figure 5-5.

B-16. Like the B-20 training range, the B-16 training range and associated proposed range safety and training public land withdrawal area are located within the Carson Desert Hydrographic Basin. The B-16 training range contains alluvial fans and valley bottomlands with areas of alkali flats and sand dunes. Several major ephemeral stream channels converge to the northwest of the B-16 training range and cross the training range as they flow towards Carson Lake. The proposed range safety and training public land withdrawal area contain additional alluvial fans, valley bottom lands, alkali flats, and sand dunes and segments of three main irrigation canals. This area contains no perennial springs or streams, and no wells have been drilled for water supply. The water table beneath the bottomlands is believed to be shallow. No data are available regarding water quality beneath B-16.

B-17 and Dixie Valley Area. The Dixie Valley proposed range safety and training public land withdrawal area encompasses portions of the Dixie and Fairview Valleys, straddling the divide between those two valleys. These two valleys are very similar hydrographic basins; neither has any surface water outflow and the Fairview Valley is topographically closed. Dixie Valley receives surface water from ephemeral streams to the north and south and subsurface water from all connected basins including the Fairview Valley.

There are numerous wells in the Dixie Valley, many of which are free flowing. Wells are concentrated in the northern and central parts of the valley. In addition, among the numerous springs in Dixie Valley are many hot or warm springs. Most recharge is from spring snowmelt from the mountains. Fairview Valley contains a



The primary surface water features and most water developments occur outside Navy-administered lands.

Surface Water Features and Water Developments in Churchill County

NAS Fallon, Nevada
Figure 5-5

perennial stream, a few springs, and seven reported wells. Surface water drains towards Labou Flat in central Fairview Valley. There is no water development directly associated with B-17; however, there are two Navy wells at the northern end of Fairview Valley at the EW centroid and two storage tanks and one guzzler on the surrounding proposed range safety and training public land withdrawal area. The Navy has purchased water rights at Frenchman, just north of the B-17 training range along Highway 50.

B-19 and Shoal Site. The B-19 training range and associated proposed range safety and training public land withdrawal area straddle the Blow Sand Mountains, which form the topographic divide between the Rawhide Flats and the Carson Desert. There are minor amounts of runoff and infiltration in the Carson Desert portion of this area. There is no perennial surface water flow into or out of Rawhide Flats, nor is there any significant runoff from the surrounding mountains. No streams and only one spring occur in the B-19 training range.

The shoal site is near the summit of the Sand Springs Range. The proposed withdrawal encompasses Gote Flat and extends northwest into the Carson Desert and east towards Fairview Valley. Precipitation may be as much as 15 inches per year. No permanent bodies of water, springs, or streams occur on this site, but a major ephemeral drainage crosses the eastern portion of the site towards Fairview Valley.

NAS Fallon Air Station. The NAS Fallon air station is located in a generally level area within which the primary water features are irrigation and drainage canals. Drainage canals in this area intercept the shallow water table and carry water throughout the year. This water is of poor quality and contains agricultural return flows from on- and off-station uses, treated sewage effluent from NAS Fallon and the City of Fallon, and local runoff. The direction of flow in the shallow water in this area is to the southeast. TDS concentrations are about 1,000 mg/l, near the upper limit of potability. The water has relatively high arsenic concentrations. Ground water flow in the southern two-thirds of the station is upward into the shallow aquifer and in the northern part of the station is downward through the shallow aquifer.

Water Use

NAS Fallon holds rights to 2,298 AFY of ground water and consumes about 590 AFY for domestic and industrial purposes and for landscape irrigation. The surface water-righted lands at NAS Fallon are part of the Newlands Irrigation District. These lands are owned outright by the Navy and are not subject to review in this document.

The only current water use associated with areas outside NAS Fallon is the EW centroid in northern Fairview Valley. That use amounts to less than 10 AFY of

ground water. The Navy does not use any water within B-16, B-17, B-19, or the shoal site.

5.2.5 Cultural Resources

Regional cultural resources including prehistoric resources, traditional cultural properties, and historic resources are discussed in Section 3.5. Cultural resources associated with the air station, training ranges, and other NAS Fallon-administered lands are discussed in this section.

Cultural Resources Studies

Three cultural resources overviews have been prepared that address portions of the project area (Bard et al. 1981; Pendleton et al. 1982; Hanes and Ball 1982). These overviews synthesize available cultural resources data, describe the prehistory and history of the region, and discuss management and research issues (US Navy 1993a). In addition, an Archeological Predictive Model was developed and tested for the Cattail-eater territory, which includes NAS Fallon-administered lands (Raven and Elston 1989; Raven 1990; Zeanah et al 1995).

Starting as early as 1912, central Nevada has been the focus of a great amount of archeological and ethnohistorical research, most of which has focused on the excavation of cave sites (including the Grimes Point Petroglyph site near NAS Fallon) and establishing a chronology for prehistoric occupation of the region. Few of these studies, however, have focused on or included portions NAS Fallon. The first study conducted within the project area was an archeological survey of the Humboldt and Carson Sinks in the mid-1930s (Heizer and Krieger 1956). A second major survey of the Carson Sink was conducted in the 1950s (Morrison 1961, 1964). In the early 1980s, a third sample survey of the Carson Sink was performed that included 259 linear kilometers (161 linear miles) of the valley floor (Kelly 1985).

Numerous individual surveys have been conducted in the project area in compliance with Section 106 of the NHPA. These include at least 69 inventories within NAS Fallon; the B-16, B-17, and B-19 training ranges; and the Dixie Valley landholdings (SAIC 1991; US Navy 1993a). The most recent comprehensive survey of the training ranges was conducted in 1993 and 1994 in support of a predictive model of prehistoric sites in the Carson Desert. As part of this project, five percent of each of the training ranges was inventoried (Intermountain Research 1995).

Known Resources

Prehistoric and Historic Archeological Resources. At least 223 archeological sites, including both prehistoric and historic resources, have been recorded at NAS Fallon. These include 56 sites within the air station, 37 sites within B-16, 77 sites within B-17, and 53 sites within B-19 (Intermountain Research 1995; US Navy 1993a, 1997). Prehistoric site types recorded in the project area include villages,

sites with residential features, lithic quarries, rock art, shelters/caves, lithic scatters with and without groundstone, and groundstone scatters (Intermountain Research 1995; US Navy 1993a).

Historic Architectural Resources. Military development at NAS Fallon began in 1942. If any of the original structures from this period remain within the project area, they could be potentially eligible to the NRHP as properties that have gained significance within the last 50 years and are exceptional resources under the World War II or Cold War theme (National Park Service undated). None of the original Army Air Corps buildings from 1942 are known to exist at NAS Fallon; however, 34 buildings remain on the installation that were constructed between 1943 and 1945. Most of these structures were rehabilitated (i.e., re-roofed, re-sided, and/or windows replaced) in the late 1970s and early 1980s. One structure (Building 56) has been completely rebuilt and another (Building 325) collapsed (US Navy 1993a). All but one (Building 95) of the 34 World War II-era structures at NAS Fallon are not considered eligible to the NRHP due to the extensive modification that they have undergone, which has compromised their original integrity. It has been recommended that a formal evaluation of NRHP eligibility be conducted for Building 95, an aircraft beacon (US Navy 1993a).

A Programmatic Memorandum of Agreement among the Department of Defense, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, dated 7 July 1986, accepts the demolition of all temporary structures on NAS Fallon (US Navy 1993a).

Traditional Cultural Properties. The Cultural Resources Management Plan for NAS Fallon (US Navy 1993a) identifies Native American tribal organizations that may have properties of cultural value within the NAS Fallon training ranges. These include the Fallon Paiute-Shoshone Tribes and the Walker River Paiute Tribe. The plan also describes the process for consultation with representatives of these groups for activities that may affect traditional cultural properties within the training ranges or on Native American reservation land.

5.2.6 Environmental Justice and Socioeconomics

Environmental justice and socioeconomics, including population, employment, and income, and are discussed in Section 3.6 and apply to all NAS Fallon-administered lands.

5.2.7 Air Quality

Ambient air quality standards, existing air quality conditions, and a description of the federal Clean Air Act conformity process are provided in Section 3.7 and apply to all NAS Fallon-administered lands. Existing sources of air emissions for NAS Fallon-administered lands apart from B-20 and regional air quality planning are discussed in this section.

Existing Sources of Air Emissions

The primary sources of air emissions resulting from NAS Fallon operations are aircraft and vehicles. Stationary sources on the air station include boilers and generators, paint spray booths, jet engine test cells, fuel storage, fuel dispensing, and cleaning and degreasing operations. Air emission sources on other NAS Fallon-administered lands include building heating and vehicle exhaust emissions related to the EW centroid, diesel-powered backup generators and vehicle exhaust emissions from operation and maintenance of EW and TACTS sites, and fugitive dust emissions from vehicle travel on unpaved roads.

NAS Fallon is not classified as a major source under Title V of the Clean Air Act Amendments of 1990. Title V is a national operating permit program for major stationary sources of air pollution. A facility is considered a major source and subject to Title V requirements if it emits or has the potential to emit 10 tons per year of a single listed hazardous air pollutant or 25 tons per year of a combination of hazardous air pollutants; if it emits or has the potential to emit 100 tons per year of a criteria air pollutant; or if it is located in a nonattainment area and emits a certain tonnage of nonattainment criteria pollutant per year based on the severity of the nonattainment.

Air Quality Planning

State of Nevada. Nevada's authority to implement its air quality program is contained in Nevada Revised Statutes (NRS) 445.401-445.601, which state the broad powers of the program as follows:

"It is the public policy of the State of Nevada to achieve and maintain levels of air quality that will protect human health and safety, prevent injury to plant and animal life, prevent damage to property, and preserve visibility and scenic, aesthetic and historic values of the State."

Churchill County. While Churchill County has not violated PM₁₀ air quality standards, the Churchill County Master Plan stresses the importance of implementing programs to reduce suspended particulates. The plan suggests precautions that can be taken to prevent unnecessary or excessive generation of dust, including sprinkling construction sites; compacting, re-vegetating, and landscaping; applying chemical palliative or asphalt sealing; installing windbreaks on agricultural land; imposing reduced speed on dirt roads; limiting burning, tilling, and earth-moving at high risk periods; using cargo covers on trucks hauling sand or dirt; and using phased grading and tilling operations (Churchill County 1995a).

The Churchill County Master Plan also recommends that programs to reduce vehicular traffic miles be evaluated to balance anticipated increases in traffic. These programs should include encouraging car-pooling by employers; reviewing potential public transportation, especially between the City of Fallon and NAS

Fallon; and planning land uses to minimize divisions between residential areas and areas of services (Churchill County 1995a).

5.2.8 Noise

Noise terminology is discussed in Section 3.8.1 of the LEIS. Existing noise conditions and noise studies for NAS Fallon-administered lands apart from B-20 are presented below.

Existing Noise Conditions

The areas of Churchill County that fall within the airspace boundaries associated with NAS Fallon experience generally elevated Ldn noise levels. These levels range from 75 dB near the air station boundary to 60 dB in adjacent areas of Fallon and are primarily the result of aircraft overflights. Noise levels vary in and around the training ranges, from 60 dB outside the ranges to over 75 dB inside the training ranges and along flight patterns (US Navy 1992).





Near the training ranges, noise from air-to-ground gunnery cannot be detected because of higher levels of noise from aircraft involved in gunnery activity. Within B-16, only practice/inert and training ordnance are used, producing little noise. Live ordnance dropped on B-17 produces 65 dB noise contours at a distance of 6.7 miles from the impact area, while the delivery of explosive ordnance on B-19 produces a 65 dB contour 5.7 miles from the impact area. These data indicate that areas outside the training ranges are experiencing noise from training activities (SAIC 1991).

Noise Studies

Under a federal program initiated in 1973, under DOD Instruction 4165.57, military air installations are required to analyze the effects of air activities and to provide recommendations for land use planning in adjacent areas that are compatible with air installation operation. In 1977, the Navy conducted an air installation compatible use zone (AICUZ) study to develop a map illustrating noise contours around the air station (US Navy 1977). The study was updated and contours were revised in 1992 (US Navy 1992). Figure 5-6 depicts noise contours at the air station and training ranges.

A range air installation compatible use zone (RAICUZ) study was prepared for the NAS Fallon training ranges in 1982 (US Navy 1982b). The RAICUZ study identified areas contiguous to the established training ranges where noise levels and safety hazard levels exceeded Navy guidelines for the existing land uses. Table 5-4 presents individual land uses and their compatible noise levels. The acceptable noise levels are based on the US Department of Housing and Urban Development document *Aircraft Noise Impact, Planning Guidelines for Local Agencies*; the noise levels have been adjusted down five decibels to take into account the low background noise level in the area.

Legend

-  Withdrawn lands under PLO-898
 Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
 Navy-acquired lands
 Stillwater National Wildlife Refuge

 Indian reservation

Noise Contours

NAS Fallon, Nevada

Figure 5-6

Table 5-4
Land Use Compatibility with Noise Levels

Land Use	Normally Acceptable Noise Levels
Residential (single family, duplex, mobile homes)	< 60 dB
Residential (multiple family)	< 60 dB
School classrooms, libraries, churches	< 60 dB
Playgrounds, neighborhood parks	< 75 dB
Livestock farming, animal breeding	< 75 dB
Agriculture (except livestock), mining, fishing	< 80 dB
Public rights-of-way	< 75 dB
Extensive natural recreation areas	< 75 dB

Source: US Navy 1992

Because of changes in aircraft technology and training tactics and in response to public concern, the Navy conducted an aircraft noise study for the B-16 Range Complex (US Navy 1995f). The study calculated and plotted noise levels for average "busy day" operations at the range. A busy day is defined as any 24-hour period in which the day's total operations are at least 50 percent of the annual average daily operations. In 1994, B-16 experienced 151 busy days. These updated noise contours for B-16 are mapped on Figure 6-3.

Noise contours defined by these studies have been supported by noise complaints from residents north of B-16 and west of the City of Fallon. Noise complaints stem primarily from high-speed, long run-in overflights by military jets. These types of flights have increased in recent years in conjunction with technological and military training developments. Residential development, which has been extending northwest from the City of Fallon since the early 1950s, has brought an increasing number of people into zones where noise levels have concurrently been on the increase. Most noise complaints have come from owners of private lands adjacent to the proposed range safety and training public land withdrawal area, primarily around B-16. NAS Fallon recently revised its training operations around the B-16 range by realigning 12 MTRs to terminate at B-20 instead of B-16, reducing noise levels in the area.

In response to noise complaints, Churchill County adopted a noise ordinance implementing a disclosure statement for existing residences and sound insulation standards for all new residential structures within the 70 dB noise contour of the latest AICUZ studies. Under this ordinance, prospective buyers and tenants within the 70 dB noise contour will receive a notice from the owner disclosing noise conditions at the property. This ordinance also reduces residential construction within the 70 dB noise contour because new construction must contain adequate noise insulation to meet strict county standards (Churchill County 1993; Sugg 1995).

Helicopter Noise

NAS Fallon uses helicopters in its integrated air and ground training mission. Average hourly noise levels above 70 dBA may begin to interfere with outdoor activities, speech, or communication. Peak flyover noise levels above 80 dBA or average flyover event noise levels above 75 dBA would generally be considered intrusive noise events for a normally quiet rural area. Noise levels over 70 dBA make speech communication difficult and speech communication is almost impossible at noise levels over 85 dBA. Intrusive noise events for helicopters may be indicated by peak flyover noise levels above 75 dBA or average flyover event noise levels above 70 dBA.

Table 5-5 illustrates expected noise levels at different distances from the ground track of low altitude (100 feet above ground level) helicopter flights. Noise level estimates in Table 5-5 are presented in several formats: single event levels (SEL), maximum dBA during the flyover event, average dBA during the flyover event, and average hourly dBA for 1 or 5 flights per hour.

Table 5-5
Estimated Noise Levels For Helicopters¹

Distance From Flight Track (feet)	Noise Level at Ground			Average Hourly Noise Level (dBA) for Multiple Overflights in One Hour	
	Flyover Event SEL (dBA)	Peak Noise Level (dBA)	Average Event Noise Level (dBA)	1 Flight per Hour	5 Flights per Hour
0	93.7	78.8		58.1	65.1
100	91.3	76.4	71.7	55.7	62.7
200	88.0	73.1	68.5	52.5	59.5
300	85.6	70.7	66.0	50.0	57.0
400	83.7	68.7	64.1	48.1	55.1
500	82.1	67.2	62.5	46.5	53.5
750	79.2	64.2	59.6	43.6	50.6
1,000	77.0	62.1	57.4	41.4	48.4
1,500	73.8	58.9	54.2	38.2	45.2

¹ Noise levels for a UH60A helicopter at 100 feet above ground level for a duration of 90 seconds.

SEL = single event level (the equivalent noise level if the total acoustical energy of the event is condensed into or spread over a fixed 1-second interval). SEL values for aircraft flyovers are based on Navy data.

Peak noise levels were derived by iteration while scaling the noise event profile to a reported SEL value. Average event noise levels were calculated from the simulated event history.

Average aircraft noise levels were estimated by converting flyover SEL data into a simulated time history profile equivalent to the reported SEL value. For analysis, the flyover event is assumed to include a 1 to 2 nautical mile approach path and a 1.5 to 2 nautical mile departure path during which noise levels will exceed a nominal 50 dBA background level.

Time history simulations assume a 3 nautical mile flight path for helicopters (1.4 nautical mile approach and 1.6 nautical mile departure).

The noise level rise to the peak was simulated as a sine wave curve and the noise level drop-off from the peak was simulated as a logarithmic curve.

5.2.9 Mineral Resources

This section discusses the mineral resources and mining activity within the air station, training ranges, and the proposed range safety and training public land withdrawal area.

Mineral Resource and Mining Studies

Mineral resources and mining activity at the air station and three training ranges have been evaluated in studies including the Special Nevada Report (SAIC 1991). Mineral resources and mining activity in the proposed range safety and training public land withdrawal area have been evaluated in four studies—one Nevada Bureau of Mines and Geology (NBMG) study (NBMG 1987) and three Department of the Interior, Bureau of Mines (BOM) studies (US BOM 1990; US BOM 1992; US BOM 1995). These studies included 181,323 acres identified in the original land withdrawal proposal (NBMG 1987), 7,750 acres of off-range ordnance land added to the original proposed withdrawal (US BOM 1992), and 7,584 acres for a panhandle to connect the proposed land withdrawal in the Dixie Valley area to the Dixie Valley land holdings (US BOM 1995). An additional survey was completed for the area south of the B-16 training range (Thompson 1996). The findings of these reports are detailed below.

Mineral Districts

No mineral districts are located at NAS Fallon. Portions of seven mining districts or recognized mining areas are included within the boundaries of the B-16, B-17, and B-19 training ranges and the proposed range safety and training public land withdrawal area.

The Camp Gregory mining area of the northern Terrill district lies at the northwestern corner of the B-16 training range and lands proposed for withdrawal north of the B-16 training range.

The Fairview district overlaps the eastern side of the B-17 training range and proposed withdrawal lands, and the Sand Springs district lies on the western boundary of the B-17 training range and proposed withdrawal lands. At Fairview, the major mining area is included in the area proposed for withdrawal as Category A, restricted public access.

The Cinnabar Hill portion of the Holy Cross district overlaps the eastern side of the B-19 training range and proposed withdrawal area.

In the proposed Dixie Valley withdrawal area, the western portion of the Wonder district is included within the proposed withdrawal area. A small portion of the Chalk Mountain district, located north of Highway 50 and just east of the B-17 training range, is located in the proposed withdrawal area. On the west side of the proposed Dixie Valley withdrawal area, the eastern portions of both the La Plata and Sand Springs districts fall within the proposed withdrawal boundary. Figure

5-7 depicts the seven mining districts in the existing and proposed land withdrawal area.

Appraisal of Mineral Resources

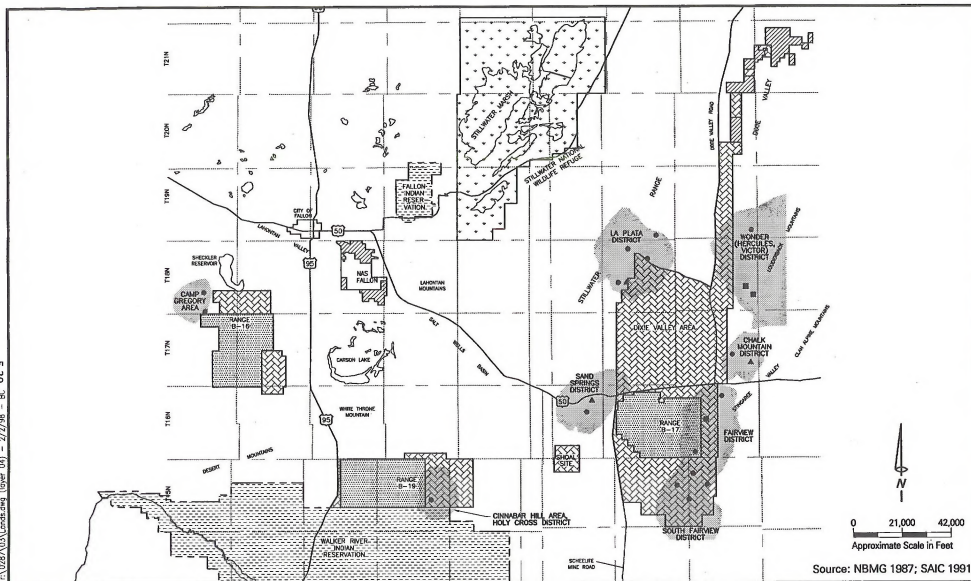
The mineral potential at the air station is assessed to be very low (SAIC 1991). Mineral bedrock is estimated to be beyond the reach of current mining interests at the eastern portion of the B-16 training range, all but the extreme western and southeast corner of the B-17 training range, and the south-central edge and southwest corner of the B-19 training range (SAIC 1991). There is low potential for precious metal development at the Camp Gregory area overlapping the B-16 training range, though mineral zones could exist east of the old camp within the B-16 training range. There is a moderate to high potential for the development of one or more silver-gold deposits in the northeastern part of the B-17 training range. Two areas of high potential in the Fairview district extend into the B-17 training range, and a larger area of moderate potential surrounds these two smaller areas of higher potential. The area extending from Cinnabar Hill across the B-19 training range to Allen Hot Springs has high potential for the discovery of precious metal deposits (SAIC 1991).

Identified mineral resources within the proposed withdrawal area include a possible 1.8 million tons of open-pit gold ore at the Jet prospect, Fairview district; an unknown tonnage of open-pit silver ore on the Silver Center claims, Wonder district; and an estimated 20-year production capability at 40,000 tons per year of diatomite at the Wildhorse claims, Camp Gregory area. In the northern Fairview district, the tailings of the Nevada Hills Mine also constitute an identified mineral resource. These areas are shown on Figure 5-8 (NBMG 1987).

Several areas within the proposed range safety and training public land withdrawal area have moderate to high potential for the discovery of mineral deposits. These areas are generally adjacent to known mines and mineralized ground in the mining districts bordering the withdrawal. Areas of moderate precious metal potential occur in parts of the Fairview, La Plata, and Holy Cross districts, and in the Camp Gregory area; areas of high precious metal potential occur in the Fairview, Wonder, Sand Springs, and Holy Cross districts (NBMG 1987).

Areas in the Chalk Mountain, La Plata, and Sand Springs districts contain moderate potential for other elements including base metals, tungsten, and molybdenum. Two areas, one in the Wonder district and another in the La Plata district, have moderate potential for discovery of fluorite deposits. One area, south of Camp Gregory, may have moderate potential for diatomite (NBMG 1987).

The proposed panhandle lands in the Dixie Valley area have an economic potential limited to sand and gravel and possibly clay deposits (US BOM 1995).



Portions of seven mining districts or mining areas fall within existing and proposed withdrawal areas.

Legend

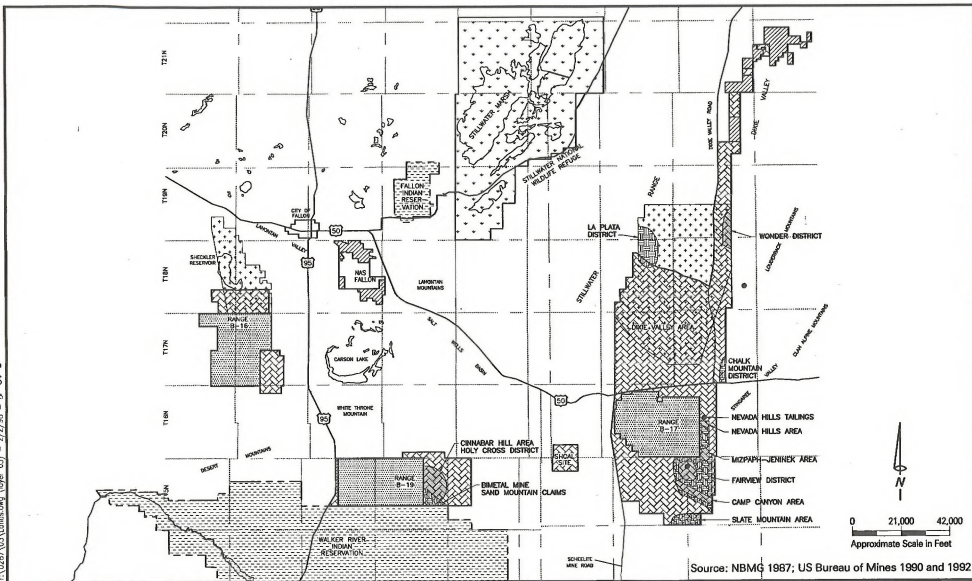
- Withdrawn lands under PLO-898
- Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
- Navy-acquired lands
- Stillwater National Wildlife Refuge

- Indian reservation
- Mining districts / areas
- Inferred resource
- Identified resource
- Indicated resource

Mining Districts on or near Withdrawn Lands

NAS Fallon, Nevada

Figure 5-7



Mineral Resources on Withdrawn Lands

NAS Fallon, Nevada

Figure 5-8

Patented and Unpatented Mining Claims

Mining Laws. A variety of federal and state laws regulate mining activities in Nevada. These laws dictate how claims are to be located, registered, and maintained. The major federal law governing mining activities on the withdrawn lands is the Mining Law of 1872, as amended (30 USC 22-54). This law allows individuals and corporations to use and appropriate public lands and their mineral resources for mining exploration and production. The law also includes provisions for enacting state mining laws that are consistent with federal law.

Nevada state law describes the procedure for locating a claim, marking claim boundaries, and filing the claim with certain agencies. FLPMA requires claimants to file a copy of the official record of the notice or certificate of location with the BLM state office, including any amendments to claim boundaries or changes in ownership.

Mining Claim Inventory. There are no patented or unpatented mining claims at NAS Fallon or on the training ranges except at the B-17 training range, where there are patented claims. The proposed range safety and training public land withdrawal area contains 38 patented mining claims either partially or totally within the withdrawal area. There are 11 claims near the B-17 training range on lands proposed to be closed to public access for safety reasons; the remaining 27 claims are located on open land near the B-17 training range and in the Dixie Valley area.

There are 16 active unpatented claims for which maintenance fees were received by the BLM in 1997. All 16 of these claims exist in the Dixie Valley area. There are 19 claims near the B-16 training range for which small miner certification status was filed in 1996. Two of these 19 claims are on lands proposed to be closed to public access for safety reasons.

There are an additional 50 claims around the B-17 training range that are technically active but for which neither maintenance fees nor small miner certification requests have been submitted. Fifteen people requested a deferment in 1997 and three requested a deferment in 1996. If a miner can establish that he or she is unable to work a claim but would like to keep the claim active, he or she may request that the maintenance fee be deferred. All 18 of the claims filing deferrals exist on lands closed because of off-range ordnance.

The Navy contested the validity of the remaining claims, and hearings to decide their status were held. The BLM and a registered geologist performed the necessary field and lab work and prepared mineral studies. In that undertaking, they were unable to substantiate a marketable discovery of minerals. The claims were contested before the Department of Interior Bureau of Land Appeals; however, the Payne and Baughman claims were declared null and void.

Nonmetallic Mineral Resources

Sand and Gravel. Much of the alluvial-covered areas along the lower flanks of the B-16, B-17, and B-19 training ranges and the proposed range safety and training public land withdrawal area contain potential sand and gravel reserves. This material, however, does not have any unique value over similar material occurring in other areas throughout western Nevada, and its potential cannot be rated. As in the past, sand and gravel operations in Nevada will continue to be developed as close to consuming areas as possible (NBMG 1987). Sand and gravel deposits, while probably present on most Navy lands, do not represent a sufficiently unique resource to merit classification (SAIC 1991).

Sodium and Potassium Compounds. Sodium compounds have been produced from Fourmile Flat, west of the Sand Springs Range, and from Soda Lake, west of Fallon. Borates have been mined from Eightmile Flat west of the salt mine area. The lands within the proposed range safety and training public land withdrawal area, however, do not contain closed basins that might have potential for any saline minerals, carbonates, or borates (NBMG 1987).

5.2.10 Livestock and Wild Horse Management

This section addresses those wildlife and livestock management areas that are officially designated for management by a federal agency. These areas include livestock grazing allotments and wild horse herd management areas. No grazing allotments or wild horse herd management areas (HIMAs) occur on existing NAS Fallon withdrawn lands.






Livestock

The BUREC and BLM manage livestock grazing within the proposed range safety and training public land withdrawal area. BUREC administers grazing north of B-16. The BLM manages grazing under the authority of the Taylor Grazing Act of 1934, the Federal Land Policy Management Act of 1976, and the Public Rangelands Improvement Act of 1978. Under this management, ranchers may obtain permits for an allotment of public land on which a specified number of livestock may graze. The number of permitted livestock on a particular allotment is determined by how many animal unit months (AUMs) that land will support. The BLM operates a program to stabilize or improve the ecological condition of the allotments. This program includes proper management of livestock grazing and such improvements as fences and water developments.

Nine grazing allotments managed by the BLM partially overlap the proposed range safety and training public land withdrawal area (Table 5-6 and Figure 5-9). These allotments contain 39,527 AUMs of grazing preference on 1,219,483 acres of public land. The potential withdrawal area contains approximately 5,386 AUMs of grazing preference.



Legend

- | | |
|---|---------------------------------|
|  | Indian reservation |
|  | Herd management area boundary |
|  | Herd management area name |
|  | Grazing allotment area boundary |
|  | Grazing allotment area name |

NAS Fallon, Nevada
Figure 5-9

Table 5-6
Grazing Allotment Data for Allotments
Partially Within Withdrawn Lands

Allotment	Grazing Preference (AUMs)	Total Acreage	Approximate Acres of Grazing Allotment within Maximum Withdrawal Area	Approximate AUMs within Maximum Withdrawal Area
Bass Flat	1,587	41,255	12,160	468
Clan Alpine ¹	11,410	388,646	11,200	328
Bucky O'Neill	1,500	39,054	960	37
Dixie Valley	6,495	273,841	45,280	1,073
Frenchman Flat	1,750	67,126	43,120	1,123
Horse Mountain	3,000	63,043	10,960	521
La Beau Flat	3,930	155,923	31,040	782
Lahontan	1,155	52,910	6,560	143
Mtn. Well/La Plata	<u>8,700</u>	<u>137,685</u>	<u>14,400</u>	<u>911</u>
TOTAL	39,527	1,219,483	175,680	5,386

Source: Minor 1995

- 1 Clan Alpine is composed of two allotments, one of which contains a portion of the proposed range safety and training public land withdrawal.

In 1991, after the Navy performed off-range ordnance sweeps around the training ranges, the BLM requested that the Navy post signs or fence the lands containing off-range ordnance. Some of these lands fall within existing grazing allotments. Once the lands are withdrawn, these lands will be excluded from further grazing.

Wild Horses

Under the Wild Horses and Burros Protection Act of 1972 (PL 92-195), the Secretary of the Interior is required to protect and preserve wild free-roaming horses and burros. The BLM Carson City District is responsible for managing wild horse populations within the Lahontan Valley. NAS Fallon, B-16, B-17, and B-19 are not within HMAs. There are three HMAs near NAS Fallon-administered lands—Horse Mountain, Clan Alpine, and South Stillwater. Figure 5-9 illustrates the locations of the HMAs.

The Lahontan Rangeland Program Summary of 1985 (BLM 1985c) set management objectives for each of the wild horse herd management areas. The management objectives include the maintenance and enhancement of habitat to provide forage for a specified number of horses. The summary also calls for a periodic census to be taken of the wild horse population and for additional monitoring to determine areas of use, seasonal movement patterns, sex ratios, and

other facets of population dynamics so it may be determined if management objectives are being met. The plan for each of the HMAs calls for maintaining the wild horses in good or excellent physical condition; maintaining the free-roaming nature of the wild horses; maintaining the wild horses within the HMA; and minimizing adverse effects of gathers to both the individual wild horses and to the population. The Clan Alpine HMA Plan calls for providing an area to place unadoptable horses removed from HMAs; removing only adoptable animals; maintaining genetic diversity; and minimizing stress to released animals. The South Stillwater HMA Plan calls for removing only adoptable animals and maintaining genetic diversity.

The Horse Mountain HMA is approximately 1.5 miles south of B-16, within the Horse Mountain, Desert Mountain, and Cleaver Peak grazing allotments. The HMA covers 52,422 acres of public and private land and can support a maximum of 95 horses (BLM 1991c). Based on consultation with the BLM (Gianola 1996) and a survey of the area by a NAS Fallon biologist (Rathbun 1996b), the heaviest use of the HMA is near the TCID canal, east of B-16 near Highway 95.

The Clan Alpine HMA is at the northeast corner of the Dixie Valley portion of the proposed range safety and training public land withdrawal area, within the Clan Alpine, Cow Canyon, and Dixie Valley grazing allotments. The HMA covers 314,986 acres of public and private land and can support a maximum of 979 horses (US Navy 1992).

The South Stillwater HMA is at the northwest corner of the proposed Dixie Valley portion of the proposed range safety and training public land withdrawal area, within the Mountain Well/La Plata grazing allotment. The HMA covers 9,940 acres of public and private land and can support a maximum of 16 horses (US Navy 1995a).

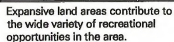
The current horse populations for the HMAs are approximately 70 for Horse Mountain, over 1,000 for Clan Alpine, and 15 to 20 for South Stillwater.

5.2.11 Recreation and Visual Resources

This section describes recreational opportunities in and the visual quality of lands in and around the NAS Fallon existing and proposed withdrawal areas.

Recreation

There is a great diversity of recreational opportunities available in the Fallon area, including sight-seeing at archeological sites, hiking, horseback riding, biking, fishing, hunting and trapping or fur bearing animals, bird watching, picnicking, ORV use, boating, and rock hounding. Additional activities, although more limited, include motorcross, snow sports, boating, swimming, pine nut gathering, wood-cutting, visiting mines and ghost towns, and rock, fossil, flora, and insect collecting. Popular recreational regions are shown on Figure 5-10.








Recreational Resources in Churchill County

NAS Fallon, Nevada

Figure 5-10

Source: Churchill County Master Plan 1990; BLM 1978

- Legend**
-  Mountain ranges used for outdoor recreation
 -  State park / wildlife refuge
 -  Pony Express National Historic Trail / American Discovery Trail
 -  Historic sites
 -  ORV use area

Areas that are used by recreationists and that are near existing and proposed NAS Fallon lands include the Sheckler Reservoir (used during wet periods), Stillwater Range, Sand Springs Range, Salt Cave, and the Fairview and Wonder mining districts. Of these sites, the Sheckler Reservoir and Stillwater Range have the highest levels of recreational activity. The Stillwater Range, including the LaPlata and Elevenmile drainages, offers high quality, undeveloped semiprimitive and primitive recreational opportunities. The Job Peak area, north of Elevenmile canyon in the Stillwater Range, has been identified through the BLM wilderness inventory process as having outstanding wilderness qualities.

Public access is restricted at the NAS Fallon air station, B-16, B-17, B-19, and on the 24,464 acres of ordnance-contaminated lands within the proposed range safety and training public land withdrawal area. Recreational activities may take place on the other proposed range safety and training withdrawal lands, given that they do not jeopardize the safety of aircrew. Common uses of these lands include hunting, hiking, camping, and ORV use (Knight 1995).

The southern Clan Alpine Range and La Plata District are adjacent to the proposed range safety and training public land withdrawal area, with access available through the withdrawal area. Sheckler Reservoir is a popular hunting and camping area. Organized ORV events are held twice each year in areas to the west and east of B-19. Organized ORV events also occur near B-16 and B-17. The Pony Express National Historic Trail is parallel to Highway 50 through a portion of the proposed range safety and training public land withdrawal area and is visited by recreationists. An annual re-ride of the trail takes place in June. The trail is also part of the American Discovery Trail, a coast-to-coast hiking trail.

Recreational opportunities are accessed primarily from area roads, including Highway 50 and Dixie Valley Road. Dixie Valley Road, which runs north through the Dixie Valley, provides access to wilderness and backcountry areas and opportunities for sightseeing in relatively remote, undeveloped, and scenic settings. No camping or ORV permits are required for casual use of the public land. Special recreation permits are required by the BLM for organized competitive or commercial recreational activities. Hunting is regulated by NDOW.

Visual Resources

Visual resources are defined in Section 3.11.2. The visual character of the existing training range lands and proposed range safety and training public land withdrawal area is typical of the Basin and Range region of the western United States. Gold and brown hills diffuse into steep rugged mountains. Alkali flats and low desert brush dominate the valley lowlands, allowing expansive views from the valleys to the surrounding mountains. The higher elevations support sagebrush, juniper, and pinyon pine that provide visual diversity and contrasting darker color along ridgelines in the distant background. Vegetation grows low and evenly on the

valley floor and primarily consists of monochromatic desert brush. Cultural modifications in the region include roads, utility lines, radar equipment, including EW, TACTS, and visual cueing device sites, fences, and scattered residences.

Public access to most landscapes within the area is limited, therefore viewer sensitivity around the existing training ranges is generally low, except near major roads and the Pony Express National Historic Trail. Withdrawn lands with foreground and middleground views within a distance of approximately five miles from Highway 50, Highway 95, and the Pony Express National Historic Trail generally have a high viewer sensitivity. Highway 50 is part of a National Parks Service—proposed National Trails System trail called the American Discovery Trail.

At the B-16 training range and proposed withdrawal lands surrounding the range, the scenic qualities consist of a relatively flat area with sparse vegetation. Scenic qualities of these lands are overshadowed by the nearby Dead Camel Mountains that visually dominate the proposed withdrawal lands. Highway 95 constitutes the most viewer-sensitive viewpoint because of the number and frequency of viewers with access to this location.

At the B-17 training range and proposed withdrawal lands surrounding the training range, the scenic qualities are similar to the B-16 training range. The landform includes the relatively flat valley basin surrounded by the nearby mountain ranges. Viewer sensitivity is dominated by long distance views from Highway 50, particularly the eastbound view descending from Sand Spring Pass toward B-17.

At the B-19 training range and the proposed withdrawal lands surrounding the range, scenic qualities consist of the relatively flat landform with surrounding hills. Viewer sensitivity is relatively low, except for lands adjacent to Highway 95 with foreground views of the lands proposed for withdrawal.

Scenic qualities at the shoal site include the variable hillside landform characteristic of Nevada high desert topography. Viewer sensitivity is low because of the distance from Highway 50.

For the proposed withdrawal land in the Dixie Valley area, the scenic qualities include monochromatic low-lying scrub vegetation on the relatively flat valley floor, surrounded by the extensive hills and mountains of the Stillwater and Clan Alpine Ranges. Cattle guards, fences, and EW and TACTS sites are visible in this area. Viewer sensitivity is dominated by views from Highway 50, particularly the eastbound view descending from Sand Spring Pass toward the Dixie Valley area.

The air station is primarily developed with areas of landscaping. The runways and aprons, comprising a flat, paved asphalt area, run in a northwest-southeast

orientation through the center of station. Two areas of mixed use development exist to the west-central side of the runways and along the southern end of the runway. Structures include single- and multi-story buildings surrounded by paved parking lots and areas of landscaping. The land around the air station includes agricultural areas as well as areas of natural desert scrub vegetation.

5.2.12 Public Health and Safety

The greatest threat to public health and safety from NAS Fallon activities is unexploded ordnance. To a much lesser extent, exposure to hazardous materials at the station and aircraft mishaps also present hazards to public safety. Data from the Hazard Analysis Mitigation Report (1995g), off-range ordnance sweeps, and other studies are summarized in this section (US Navy 1994, US Navy 1996a, US Navy 1995a).

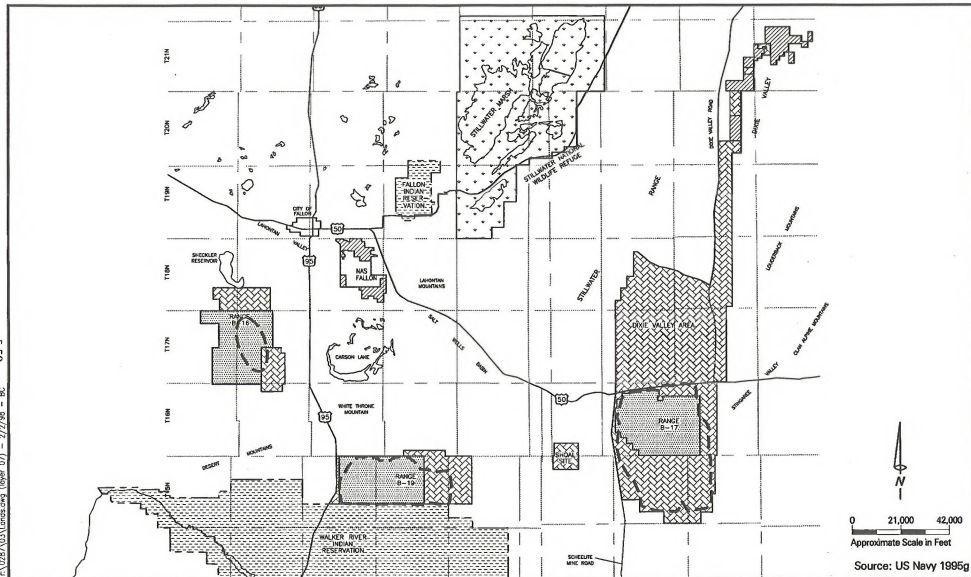
Hazard Analysis Report

The Naval Air Station Fallon Ranges Hazard Analysis Mitigation Report, September 1995, used the HAZARD methodology to develop safety footprints for each training range. These footprints map the total ground area needed to contain potential live and practice/inert off-range ordnance based on operational requirements and parameters (US Navy 1995g). The range composite safety footprints for the training ranges are presented on Figure 5-11. The safety footprints for the B-16, B-17, and B-19 training ranges spill into the proposed range safety and training public land withdrawal area, emphasizing the need for these lands for public protection (US Navy 1995g; US Navy 1995h).

Unexploded and Off-range Ordinance





Military ordnance inadvertently has fallen outside the boundaries of the training ranges onto land historically managed by the BLM and on the Walker River Indian Reservation. Beginning in early 1989, the Navy organized sweeps of areas adjacent to the training ranges to locate off-range ordnance. The perimeters of these sweeps were determined on the basis of helicopter, vehicle, and foot surveys that identified areas likely to contain off-range ordnance. These sweeps and reconnaissance are coordinated with the BLM and the Nevada State Division of Environmental Protection, as outlined in a March 1995 memorandum of agreement regarding off-range military ordnance.



Sweep Methodology. The personnel involved in the ordnance sweeps included a team of 115 military personnel, a helicopter survey/debris removal team consisting of eight personnel, and an explosive ordnance disposal (EOD) team. The survey area covered 226,592 acres. Surface ordnance, suspected ordnance, and scrap were located through systematic sweeps of the survey area. EOD teams followed the sweep to identify and to detonate any ordnance located. The effectiveness of the search operations was calculated through a sweep effectiveness



The HAZARD methodology develops safety footprints showing the total ground area needed to contain potential live and inert ordnance.

Legend

-  Withdrawn lands under PLO-898
-  Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
-  Navy-acquired lands
-  Stillwater National Wildlife Refuge

-  Indian reservation
-  Weapon Safety Footprint (current conditions)

Weapon Safety Footprint

NAS Fallon, Nevada

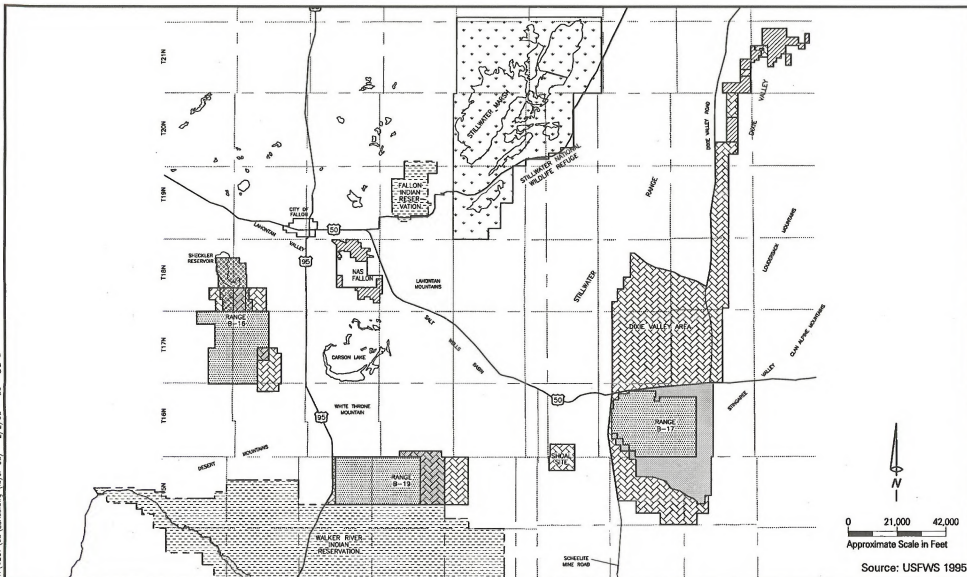
Figure 5-11

probability test. During this test, the area ahead of the sweep line was "salted" with several control ordnance items, and the items were collected by the sweep team as it proceeded through the salted area. The sweep effectiveness is expressed as the percentage of the known salted items actually collected by the sweep team.

Results of Sweep. As a result of the sweeps, it was recommended by the BLM that 24,464 acres near the B-16, B-17, and B-19 training ranges be withdrawn to protect the public from exposure to off-range ordnance (Figure 5-12).

Ground sweeps and aerial reconnaissances were conducted off-range of B-16 between November 27 and 30, 1989, and between June 11 and 15, 1990. Data on the ordnance found in the area swept are provided in Table 5-7. Flares were the only type of new ordnance found off-range. Korean Conflict-era targets (three bull's-eyes and one strafe target) also were located. The sweep effectiveness was calculated at 91.7 percent in November 1989 and 97.0 percent in June 1990. No subsurface sweep was conducted because effective subsurface sweep technology or methodology for large areas did not exist. The BLM land near the B-16 training range contained only practice/inert ordnance, which may or may not have spotting charges or other reactive materials for scoring purposes, but has no live explosive fillers (see Section 3.13). Practice ordnance may be described as inert ordnance, though to be classified as inert, ordnance must be verified by an inspector and then certified as inert. An additional 12,180 acres north of the B-16 training range and administered by BUREC were found to contain practice/inert ordnance (Figure 1-5). The BUREC did not request that the Navy fence or withdraw these lands. Should the BUREC ever propose to relinquish its control of these public lands, the Navy would submit an application to BLM for withdrawal.

Ground sweeps and aerial reconnaissance were conducted off-range of the B-17 training range during June and November of 1989 and from June 18 to 28, 1990. Data on the ordnance found in the area swept are provided in Table 5-7. New off-range ordnance consisted primarily of flares and a few practice bombs. The surface sweep effectiveness was calculated at 92.7 percent in November 1989 and 95.0 percent in June 1990. No subsurface sweep was conducted because, as previously noted, effective subsurface sweep technology or methodology for large areas did not exist.



Off-range ordnance sweeps (1989-1990) identified 24,484 acres of land that potentially contained off-range ordnance. These lands are all within the range safety and training withdrawal area.

Legend

- Withdrawn lands under PLO-898
- Proposed withdrawal lands under the Range Safety and Training Public Land Withdrawal EIS
- Navy-acquired lands
- Stillwater National Wildlife Refuge

- Indian reservation
- Public land administered by BLM containing off-range ordnance
- Public land administered by BUREC containing inert off-range ordnance

Off-range Ordnance Lands

NAS Fallon, Nevada

Figure 5-12

Table 5-7
Results of Off-range Ordnance Sweeps

Range	Date	Live	Ordnance Items Practice/ Inert	Total	SEP ¹ (%)	Related Scrap (lbs)
B-16	November 1989	0	103	103	91.7	3,500
B-16	June 1990		708 ²	726	97.0	24,700
B-17	June 1989	551	0	551	N/A	N/A
B-17	November 1989	793	1,905	2,698	92.7	80,800
B-17	June 1990	779	523	1,302	95.0	20,820
B-19	March 1989	1,570,358	532	1,570,890	N/A	128,000
B-19	December 1989	12,258	16,381	28,639	92.7	36,575
B-19	June 1990	707	6,666	7,373	91.5	16,410
TOTAL		1,585,575	26,707	1,612,283		310,805

Note: 1,608,772 of the 1,612,283 total ordnance items (99.782 percent) were 20mm-40mm strafe/ammunition scrap, with 99.781 percent located off B-19

¹Sweep effectiveness probability

²Of the total number of items found, 129 may have had some small explosive components. The 129 items consisted of:

80 - Strafe/ammo pre-1968 rounds

9 - Unspent flares

1 - MK 4 cad - small explosive to push bomb off rack

37 - 4 lb. practice bombs - pre-1968 - age did not allow determination of status of spotting charge

1 - 2.25 inch pre-1968 rocket

1 - 2.75 inch rocket motor

Ground sweeps and aerial reconnaissance were conducted off-range of the B-19 training range during March and December 1989 and June 1990. Information on the ordnance found in the area swept is reported in Table 5-7. The vast majority of off-range ordnance was strafe gun ammunition scrap. The surface sweep effectiveness was calculated at 92.7 percent. No subsurface sweep was conducted. Aerial photos of the B-19 training range showed that the strafing target, which is 3,000 feet north of the south fence line, was not in an east/west configuration. Targets were realigned in October 1990, drastically reducing off-range strafe gun scrap. The off-range ordnance south of the B-19 training range is on the Walker River Indian Reservation. The Navy will continue to consult with the Walker River Paiute Tribe to determine how off-range ordnance in this area is to be managed in the future.

Changes in Operations. In response to discoveries of off-range ordnance, NAS Fallon operations have been changed to reduce the occurrence of off-range ordnance. In addition to realigning the strafing target at the B-19 training range, planes dropping live ordnance are accompanied by airborne, nonparticipating observation aircraft. If these aircraft see a plane drop ordnance outside the range, the pilots notify the NSAWC Range Department, which has EOD personnel dispose of the ordnance. In addition, NAS Fallon has modified its operating rules

for ordnance delivery and has expanded aircrew briefings to minimize the risk of ordnance being dropped off-range. To ensure that there is little to no public risk, the Navy also proposed the range safety and training public land withdrawal.

A memorandum of agreement concerning off-range military ordnance was developed among the Navy, the BLM, and the State of Nevada in December 1989 and updated in 1995. The purpose of the memorandum is to minimize the risk to public safety, to maximize the speed and efficiency of any future retrieval operations, and to establish a framework for mutual assistance and consultation in the future on lands adjacent to Navy training ranges within Nevada. The major sections of the memorandum include a description of a regular ordnance reconnaissance program and an emergency retrieval program. The memorandum would terminate upon implementation of the proposed range safety and training public land withdrawal, though the Navy would continue the sweeps.

Ordnance Removal Technology. Ordnance removal technology is discussed in Section 3.12.2.

Chaff and Flares

To enhance realism in training activities, chaff and flares currently are deployed over B-17 and the Dixie and Fairview Valleys within the Gabbs North MOA and Gabbs Central MOA. This area encompasses approximately 4,220 square miles and is limited to the west near the Stillwater Mountain Range. Approximately 7,500 pounds are dropped per year, equating to less than two pounds per square mile or 0.0028 pounds per acre.

The use of chaff is authorized by the FAA and other federal agencies and is regulated under Navy instruction OPNAVINST 3430.9. Chaff use on the NAS Fallon ranges is authorized specifically by the Naval Emissions Center in its message, date-time group 011715Z SEP 95. The two types of chaff currently approved for use at NAS Fallon are RR-129 and RR-144, both of which are composed of glass fibers, aluminum coating, and stearic acid. Each chaff fiber resembles a fine silver hair. A canister, or bundle, of chaff contains approximately 2.1 million fibers and weighs approximately 1.5 ounces. The Navy is examining the feasibility of using degradable chaff, which includes degradable chaff and end caps.

Chaff is dispensed from aircraft for two purposes. The first purpose is to confuse enemy radar by saturating radar signals so that the radar cannot distinguish between the aircraft and the dispensed chaff. The second purpose is to act as a decoy to enemy missiles, causing them to follow the chaff cloud rather than the aircraft. Chaff is dispensed from an aircraft in bundles that disperse to form a cloud behind the aircraft. The cloud, which may be 300 to 600 feet in diameter, reflects radar signals and obscures the aircraft; the cloud is not visible to the naked eye. Chaff settles at an estimated fall rate of 50 feet per minute or less. Initial chaff

concentrations are about 120 micrograms per cubic meter, but dissipate quickly because of chaff's light weight and the effects of wind and air currents. As a result, extremely wide dispersion patterns are produced (US Air Force 1996). Occasionally chaff bundles do not disperse completely and clumps of chaff may be found. Chaff has been used in a portion of the FRTC for over 30 years and NAS Fallon uses approximately 2,350 bundles of burst chaff per month, or 28,000 bundles per year (SAIC 1991).

The Navy took the initiative to study chaff in the Dixie Valley area. The survey, conducted in 1994 and 1995, detected chaff fibers, parts of chaff bundles, and debris on the ground within portions of the Dixie Valley area. In a survey that covered approximately 0.14 percent of the Dixie Valley area, the most commonly found debris included the caps that come off the end of chaff bundles when chaff is released. One intact chaff bundle was found. Chaff debris was found most frequently near Dixie Valley Road in the eastern portion of the Dixie Valley area (US Navy 1995a).

Decoy flares are magnesium pellets that burn for less than 10 seconds at 2,000 degrees Fahrenheit. The burn temperature is hotter than the exhaust of an aircraft and therefore attracts heat-seeking weapons targeted on the aircraft (SAIC 1991). Approximately 120 decoy flares are dropped each month.

Parachute training flares are dropped over the training ranges but may occasionally be found off-range. Parachute flares are used infrequently; currently, approximately 60 parachute flares are dropped per year.

Beginning in 1989, the Navy organized recurring helicopter, vehicle, and foot traffic sweeps at a minimum of two per year of areas adjacent to ranges to remove any ordnance and flares. These sweeps and reconnaissances are coordinated with the BLM and Nevada State Division of Environmental Protection as outlined in a memorandum of agreement regarding off-range military ordnance. This memorandum of agreement was developed by the Navy, BLM, and the State of Nevada in 1989 to minimize risks to the public from off-range ordnance. This agreement was updated in December 1995 (US Navy 1995j). In 1989 and 1990, off-range sweeps of the ranges discovered 406 unspent flares in the off-range ordnance areas. It was concluded from these sweeps that approximately 20 flares per year accumulate in off-range ordnance areas (SAIC 1991). All unspent ordnance and flares are rendered safe at the site location.

Aircraft Mishaps

NAS Fallon has infrequently experienced aircraft mishaps, such as accidents and objects or armaments inadvertently released from aircraft. Such mishaps present an unlikely but potential hazard to public safety. Between 1964 and 1988, 75 aircraft mishaps occurred; of these, 20 impacted training ranges, 30 impacted the air station, and 25 affected public or private lands, for an average of one off-range

mishap per year. One civilian fatality resulted from a mid-air collision, when the civilian aircraft entered active restricted airspace without authorization (SAIC 1991). Between 1989 and 1996, there were 18 mishaps associated with NAS Fallon operations. Nine occurred on the air station and nine occurred on the training ranges or on public or private sector land. No civilians were involved in the mishaps.

On an average, 1.5 parts, such as screws or bolts, fall off aircraft for every 1,000 sorties. Given the number of sorties flown in a year at NAS Fallon, approximately 60 to 66 objects may be dropped by aircraft in a year. The land area where this is most likely to occur is between the station and the training ranges. Given this frequency and the area that a typical sortie covers, the likelihood of these objects striking people or structures is small (SAIC 1991).

To improve safety in the Fallon special use airspace, a Memorandum of Understanding among the Department of the Navy, the Department of the Interior, and the State of Nevada was completed in July 1987. The document outlined coordination procedures that were designed to facilitate scheduling air operations so that each agency involved could perform its objectives in compliance with maximum safety standards.

Hazardous Materials

Hazardous substances at NAS Fallon are managed in accordance with Navy-wide and NAS Fallon-specific guidance documents. NAS Fallon guidance includes NAS Fallon INST 5090.2A, "Oil/Hazardous Substance Spill Prevention Control and Countermeasure (SPCC) Plan" and NAS Fallon INST 5090.1, "Hazardous Waste Management Plan." These guidelines and the regulatory requirements these policies implement are designed to minimize the possibility that accidental releases of hazardous substances would occur and control the consequences of such releases.

At NAS Fallon there are a number of facilities that handle hazardous materials, including the six refueling stations (aircraft fuel), maintenance hangers (motor oil, hydraulic fluid, and waste oil), and general administration and operations buildings that store small quantities of common hazardous materials, such as drain cleaner and paint.

Electronic Warfare Sites

NAS Fallon operates EW sites located on public land as established by BLM rights-of-way (Figure 5-3). Up to an additional five sites are proposed for development in the proposed range safety and training public land withdrawal area. Equipment at each site could include height finder radar, search radar, a communication link, a maintenance van, a diesel aboveground storage tank, and a 200-kW or smaller generator. Equipment is powered by electric lines, with an emergency backup generator. EW sites occupy between one to five acres, with

radar antennas extending as high as 50 feet. This specific radar is designed for long-range search and detection of tactical military aircraft conducting training in the Dixie Valley area. All sites are fenced for security. Localized electromagnetic radiation (EMR) emitted from EW radar has been determined to pose no threat to human health. A study performed by the Naval Warfare Assessment Division in August 1995 at NAS Fallon EW sites found that a standard cellular phone exposes a user to approximately 10 times more EMR than standing next to an active EW site.

5.2.13 Transportation

This section discusses regional and local roads in Churchill County, rail lines in Churchill County, and regional airports. Airspace associated with NAS Fallon also is discussed.

Road Transportation

Two primary highways, Highway 50 and Highway 95, serve the Lahontan Valley. Highway 50 is an east-west highway that passes through central Churchill County and links Fallon to Ely in the east and to the Reno-Sparks area to the west. Highway 95 runs north-south through Fallon, linking it to Interstate 80 to the north and the town of Hawthorne to the south. State Route 361 serves the Gabbs Valley area and links the valley to both Highway 50 and Highway 95. State Route 839 (Scheelite Mine Road) links Highway 50 with Hawthorne and provides access to the Fairview Valley. The Dixie Valley area is served by State Route 121, the Dixie Valley Road. Bell Canyon Road, which runs through the southern Fairview Mountains, and other local roads and trails also serve the region. Local roads primarily serve mining areas and also are used for dispersed recreation and by BLM grazing permit holders.

The existing land withdrawals do not affect any major highways in the region; however, public use of some local roads that pass through lands controlled by NAS Fallon is not permitted. Roads through areas closed because of off-range ordnance also have been affected.

Railroad Transportation

Lovelock, Sparks, Hazen, and Reno are on the Union Pacific (UP) railroad main east to west rail line. The line takes a maximum speed of 80 mph. There is a 16 mile spur line between Hazen and Fallon, with a maximum speed of 25 mph. The line is currently being improved in an effort to increase use of the line. If the line fails to become economically sufficient, UP may abandon the line.

Air Transportation

Both military and civilian aircraft use the airspace over the region. Military airspace terminology is described in Section 3.13.2. Military airspace is shown on Figure 3-5. Fallon has a municipal airport that serves the Churchill County and Lovelock area. The airport supports about 30,000 general aviation operations per

year and is the base for approximately 60 aircraft (Churchill County 1995). Small local airports near Fallon include Toulon/Derby, Gabbs, Oxbow, Silver Springs, and Austin. Larger regional airports include Elko Municipal, Winnemucca Municipal, Yerington Municipal, Reno, and Carson City.

NAS Fallon airspace includes nine restricted areas, seven military operations areas, five air traffic control assigned airspace areas (ATCAAs), one aerial refueling route (AR), and several MTRs. Table 5-8 shows restricted airspace and Table 5-9 shows military operations areas associated with the air station and training ranges B-16, B-17, and B-19. Airspace associated with B-20 is presented in Section 3.13.2.

Table 5-8
Existing Restricted Areas

Restricted Areas	Associated Range	Approximate area (in square miles)
R-4803N & S	B-16	113
R-4804	B-17	120
R-4810	B-19	120
R-4812	B-17 & B-19	174
R-4816N & S	None	<u>872</u>
	TOTAL	1,399

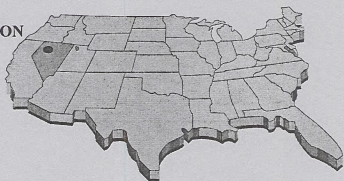
Source: US Navy 1997c

Table 5-9
Existing MOAs in the Region

MOA	Approximate Area (in square miles)
Gabbs North	3,644
Gabbs South & Gabbs Central	1,634
Ranch	564
Austin 1	3,238
Austin 2	<u>1,136</u>
TOTAL	10,216

Source: US Navy 1997c

NAS
FALLON



6.0 CUMULATIVE IMPACTS

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CHAPTER 6

CUMULATIVE IMPACTS

6.1 INTRODUCTION

The CEQ regulations that govern the preparation of environmental impact statements provide that where federal actions would generate "cumulative impacts," those impacts should be considered in relevant EISs (40 CFR 1508.25 [1988]). "Cumulative impact" is defined by CEQ as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time (40 CFR 1508.7). PL 99-606, Section 5(2)(A), further directs that the Navy specifically evaluate the following actions:

- Lands withdrawn by PLOs 275, 788, 898, and 2635 (existing withdrawn lands at NAS Fallon and training ranges B-16, B-17, and B-19); and
- Lands proposed for withdrawal at NAS Fallon under the Range Safety and Training Public Land Withdrawal EIS (formerly termed Master Land Withdrawal).

Pursuant to these requirements, Chapter 5, Other NAS Fallon Lands, presents in detail the affected environment of the existing and proposed NAS Fallon withdrawn lands described above, as well as lands withdrawn under PLO 6834. Section 6.2 presents potential environmental impacts from the continued use of these NAS Fallon-administered lands. In the spirit of cumulative analysis, proposed airspace actions at NAS Fallon also are included in this section. Section 6.3 discusses other DOD and DOE land withdrawals and withdrawal proposals in Nevada, while Section 6.4 assesses potential cumulative impacts from DOD and DOE activities in Nevada. Figure 6-1 shows the location of former, existing, and proposed DOD and DOE land withdrawals in Nevada.

6.2 EXISTING AND PROPOSED LAND WITHDRAWALS AND PROPOSED AIRSPACE ACTIONS AT NAS FALLON

Lands at NAS Fallon have been withdrawn under PL 99-606 (B-20), PLO 898 (B-16, B-17, and B-19), and PLOs 275, 788, 2635, and 6834 (air station). Lands around the existing training ranges, in the Dixie Valley, and at the shoal site are proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS, released for public review in July 1997.

A formal request for airspace designation and disestablishment at B-16 has been submitted to the Federal Aviation Administration. Potential airspace designation actions at NAS Fallon, including designation of new MOAs, are still in the planning stages, and project-specific environmental documentation has not yet been prepared. Once any actions are formally proposed, site-specific environmental documentation would be prepared as required under NEPA.

6.2.1 Description of Existing and Proposed NAS Fallon Land Withdrawals

A description of the lands withdrawn by PLOs 275, 788, 898, 2635, and 6834 and lands proposed for withdrawal in the Range Safety and Training Public Land Withdrawal EIS is provided in Chapter 5, Other NAS Fallon Lands. Appendix B provides the legal descriptions of the withdrawals as filed or published in the Federal Register.

6.2.2 Description of Proposed NAS Fallon Airspace Actions

B-16 Airspace Designation and Disestablishment

Noise from aircraft operations is a common concern, especially when the operations take place near residential areas. Military uses at NAS Fallon, such as low-flying high-speed aircraft, have resulted in such concerns by the State of Nevada and the public. The region that has been most affected by aircraft noise is the area north of B-16, known as the Sheckler District. The Navy investigated changes in aircraft flight patterns at B-16 to reduce noise levels in this area. The Navy already realigned 12 MTRs to terminate at B-20 instead of B-16, which has reduced noise levels around B-16. Airspace changes are a separate action from the land withdrawal renewal action evaluated in this LEIS; the renewal of withdrawn lands at B-20 would not result in any direct change in air operations.

Aircraft training at B-16 takes place in restricted airspace R-4803N and R-4803S and run-in lines that approach B-16 from north-northwest, resulting in noise complaints and perceived safety concerns from nearby Sheckler District residents. The existing airspace designations in the vicinity of B-16, both restricted and military operations areas, are shown in Figure 3-5. The Navy proposes to reduce noise and eliminate safety concerns by changing aircraft flight patterns using a run-in line approach from the south to B-16 targets. Modifying the flight patterns would necessitate restructuring airspace over and south of B-16. Under the proposal, three joint-use MOAs would be designated—Churchill Low, Churchill

High, and Ranch High. Creating the new Churchill MOAs would allow for disestablishing all of R-4803N and part of R-4803S (Figure 6-2). Disestablishing the restricted airspace north of B-16 would simplify flying for general aviation aircraft coming from the Yerington, Silver Springs, and Fallon Municipal airports. A portion of the Ranch MOA also would be disestablished, as the airspace would no longer be needed for training. The net effect of the airspace restructuring would be to decrease designated airspace at B-16 by approximately 112 square miles.

The Churchill Low MOA would include airspace from 500 AGL (feet above ground level) up to and including 9,000 feet above mean sea level (MSL). The Churchill High MOA would include airspace above the Churchill Low MOA from 9,000 MSL up to but not including flight level (FL) 180 (18,000 MSL). The Ranch High MOA would be located above the existing Ranch MOA and would include airspace from 9,000 MSL up to and including 13,000 MSL. The western portion of the Ranch MOA would be disestablished from the MOA boundary. All of R-4803N and the northern part of R-4803S would be disestablished. Table 6-1 details the boundary locations of the current and proposed airspace.

Flights originating out of NAS Fallon, which account for approximately 95 percent of all range activity at B-16, would enter B-16 from the southeast at an approximate elevation of 9,500 MSL (approximately 5,000 feet AGL). Flights originating out of other facilities, such as NAS Lemoore, California, which account for the remaining B-16 flight activity, would enter B-16 from the southwest as is current procedure using existing low-level routes at an approximate elevation of 9,500 MSL (approximately 5,000 feet AGL). No increase in the number of flights over Walker River Indian Reservation would occur.

Reasonably Foreseeable Airspace Designations

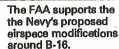
Figure 6-2 presents reasonably foreseeable future airspace designations in the region, as presented in the Special Nevada Report (SAIC 1991). These actions are not currently proposed but are evaluated in this LEIS at a level of detail commensurate with the level of detail provided in the Special Nevada Report. Comprehensive NEPA analysis will be prepared for all future airspace actions, as required. All reasonably foreseeable future airspace described below are associated with NAS Fallon.

Alterations of NAS Fallon Special Use Airspace (SUA). The Navy is investigating changes to certain existing restricted airspace and MOAs around NAS Fallon and the FRTC, based on a review of NAS Fallon's overall training and operational requirements. The changes would involve redesignation and continued use of certain restricted airspace, disestablishment of some restricted airspace, and change in use time of certain MOAs. The elements of the airspace changes include the following:




Table 6-1
Current and Proposed Airspace Boundaries

Name of Airspace	Current Boundaries	Proposed Boundaries
R-4803N	Beginning at: lat. 39°34'53"N., long. 118°59'36"W. to lat. 39°35'48"N., long. 118°53'14"W. to lat. 39°26'48"N., long. 118°51'03"W. to lat. 39°30'00"N., long. 118°58'30"W. to the point of beginning.	Release this airspace for public use.
R-4803S	Beginning at: lat. 39°30'00"N., long. 118°58'30"W. to lat. 39°26'48"N., long. 118°51'03"W. to lat. 39°23'13"N., long. 118°50'10"W. then via the 3NM arc radius circle centered at lat. 39°20'40"N., long. 118°52'15"W. to lat. 39°20'07"N., long. 118°56'03"W. to the point of beginning.	3NM arc centered at: lat. 39°20'40"N., long. 118°52'15"W. to the point of beginning.
Ranch MOA	Beginning at: lat. 38°58'00"N., long. 118°42'50"W. to lat. 39°17'00"N., long. 118°21'00"W. to lat. 39°12'10"N., long. 119°11'00"W. to lat. 39°04'00"N., long. 119°11'00"W. to the point of beginning.	Beginning at: lat. 39°58'00"N., long. 118°42'50"W. to lat. 39°17'00"N., long. 118°21'00"W. to lat. 39°13'15"N., long. 119°00'00"W. to lat. 39°01'50"N., long. 119°00'00"W. to the point of beginning.
Churchill Low MOA	Not currently established.	Beginning at: lat. 39°23'43"N., long. 119°02'00"W. to lat. 39°13'15"N., long. 119°02'00"W. to lat. 39°14'25"N., long. 118°49'25"W. to lat. 39°20'12"N., long. 118°48'20"W. then via the 3NM arc centered at lat. 39°20'40"N., long. 118°52'19"W. to lat. 39°23'43"N., long. 118°53'00"W. to the point of beginning, excluding the airspace within R-4803.
Churchill High MOA	Not currently established.	Beginning at: lat. 39°23'43"N., long. 119°02'00"W. to lat. 39°13'15"N., long. 119°02'00"W. to lat. 39°14'00"N., long. 118°53'00"W. to lat. 39°18'30"N., long. 118°50'10"W. then via the 3NM arc centered at lat. 39°20'40"N., long. 118°52'19"W. to lat. 39°23'43"N., long. 118°53'00"W. to the point of beginning, excluding the airspace within R-4803.
Ranch High MOA	Not currently established.	Beginning at: lat. 39°13'15"N., long. 119°02'00"W. to lat. 39°08'00"N., long. 119°01'00"W. to lat. 38°59'11"N., long. 118°48'00"W. to lat. 39°14'25"N., long. 118°49'25"W. to the point of beginning.

Source: US Navy 1997c






LEGEND:

-  Military Reservation
 Indian reservation
 MOA : Military Operations Area

R-48038

Restricted Area

-  Area Proposed for Deletion
-  Area Not Included in Churchill High MOA
-  Area Authorized for Supersonic Activity as Identified in the Soedal Nevada Report - no longer proposed at this time.

Proposed and Reasonably Foreseeable Military Airspace Designations

NAS Fallon, Nevada

Figure 6-2

- Disestablish Restricted Area R-4802;
- Disestablish a portion of R-4813;
- Redesignate R-4804, R-4810, and R-4813 to R-4804A, R-4810A, and R-4813A;
- Designate joint-use Restricted Areas R-4804B, R-4810B, and R-4813B above the redesignated restricted areas;
- Include high altitude bombing at B-20; up to FL450 (45,000 feet above MSL) with the ordnance delivery at FL340. All such high altitude bombing is coordinated with FAA;
- Change published times of designation of certain restricted areas; and
- Alter Gabbs Central MOA by excluding airspace around Gabbs Airport and change the time of use of this MOA.

Diamond MOA. This MOA could overlay 2,085 square miles, with a floor of 10,000 feet MSL and ceiling of FL280. This would be used for strike aircraft rendezvous (when attack aircraft regroup during ingress prior to striking the target) and for stand-off jammer operations (when electronic aircraft stand at a distance to jam enemy radar while strike aircraft approach). A part of the MOA would be used for supersonic activity (SAIC 1991).

Duckwater MOA. This MOA could overlay 4,818 square miles. The floor and ceiling altitudes of this MOA could be the same as noted above for the Diamond MOA. This would be used to provide a rendezvous area (where aircraft regroup) and a jammer axis (electronic jamming area) (SAIC 1991).

Smokey MOA. This MOA could overlay 3,853 square miles, with a floor of 200 feet AGL and ceiling altitude of 18,000 feet MSL. This MOA would provide a tactical low-level ingress to B-17 and B-19 target areas.

6.2.3 Environmental Consequences of Existing and Proposed Land Withdrawals and Proposed Airspace Actions at NAS Fallon

This section describes environmental impacts associated with the continued use of existing land withdrawals and expected impacts from the proposed range safety and training withdrawal and airspace actions. The impacts of the renewal of the B-20 land withdrawal are described in Chapter 4 and summarized in the Executive Summary and in Table 2-1.

Land Use

Existing Withdrawals. Existing land withdrawals conform to applicable planning laws and policies. Navy training activities generally are compatible with the uses on surrounding federally managed lands; off-range ordnance lands that are not compatible with public uses would be withdrawn if the proposed Range Safety and Training Public Land Withdrawal is implemented.

Proposed Range Safety and Training Land Withdrawal. The proposed land withdrawal would eliminate public access to Category A lands and limit the height of structures on Category B lands to 50 feet. Established rights-of-way corridors would be managed subject to existing rights. The Navy would consider waiver of the height limit in cases where structures exceeding 50 feet are proposed for short-term development. Waivers must not pose a safety hazard to aircrews. Permanent nonconforming structures may be allowed in some areas if such structures are compatible with Navy training operations and do not pose a safety hazard. The land withdrawal would not place jurisdictional constraints on Churchill County or the City of Fallon.

B-16 Airspace Designation and Disestablishment. The proposed airspace designation and disestablishment at B-16 would have no impacts on land use underneath this airspace.

Reasonably Foreseeable Airspace Designations. The proposed airspace designations could have impacts on certain land uses underneath the proposed Smokey MOA airspace from low altitude flights. No other impacts are anticipated.

Biological Resources

Existing Withdrawals. NAS Fallon is in an area that supports greasewood communities typical of alkali flats in the region as well as shadscale, sagebrush, and pinyon-juniper communities. Direct and indirect effects on wildlife and its habitat have occurred from the establishment of the station and FRTC facilities. Although some of the original vegetation in the area of the air station has been removed, several of the training range areas and the Dixie Valley area support large areas of native vegetation, ranging in condition from poor to excellent (SAIC 1991).

The land located under the FRTC airspace contains wetlands important to migrating birds and many other animals. In 1989, NDOW monitored the effects of military air operations at NAS Fallon on wildlife inhabiting the region. The study recorded that most animal and bird species, including sensitive species in the area, were subjected to startle effects from aircraft noise but that the reproduction process apparently was not affected (NDOW 1989). Other studies on the effects of aircraft overflight on wildlife found that aircraft overflight does not affect the numbers or diversity of animals, does not cause a change in daily activity patterns, does not result in a cumulative increase in energy loss, and does not affect reproductive success (Krausman 1993a, b, c; Workman et al. 1992; Ellis et al. 1991;

Manci et al. 1987). NAS Fallon has reduced impacts to wildlife by avoiding overflight of the Stillwater area and Carson Lake below 3,000 feet AGL whenever tactically feasible. In addition, in-flight releases of fuel are performed in specified airspace locations, and fuel is released above 6,000 feet AGL where it evaporates before contact with the ground. The consumption of chaff by wildlife has not been shown to be biologically significant (SEA 1989; Naval Research Laboratory 1995). Field observations conducted by the US Air Force at two military installations where chaff is frequently used and results of laboratory analyses of soil samples allow a number of conclusions to be drawn regarding the effects of chaff use on wildlife (US Air Force 1997). The General Accounting Office is currently conducting a study to further assess the effects of chaff.

Proposed Range Safety and Training Land Withdrawal. No significant adverse impacts to endangered and threatened species are expected as a result of the proposed withdrawal. Siting of Navy-developed facilities would avoid known sensitive species and habitats, and biological surveys would be conducted as required. Noise impacts to wildlife are not expected to be significant. All construction and training activities would adhere to Navy policies of responsible stewardship of natural resources and to the requirements of all federal and state laws. Development and maintenance of water storage troughs on Category A lands would not be significantly affected because the Navy and BLM have a cooperative agreement to allow BLM access to their guzzlers on Category A lands.

B-16 Airspace Designation and Disestablishment. The change in flight patterns at B-16 would reduce noise levels near Sheckler Reservoir, thereby benefiting bald eagle habitat and waterfowl. No impacts to sensitive biological resources are expected from the new airspace designations.

The new flight pattern would result in increased noise levels immediately south of B-16. No sensitive species are known to exist in this area. There are rock outcrops and cliff-like rim rocks that may provide habitat for raptors and other birds on the lands south of B-16. A biologist from NAS Fallon conducted a site survey on March 4, 1996, and did not observe any raptors or residue from old bird nests. Stains on the rocks were noted, which may indicate a rodent population (Rathbun 1996). Based on the literature review discussed above, many raptors inhabiting this area are expected to habituate to noise levels. Although there may be short-term startle effects, reproduction is not expected to be affected (Ellis et al. 1991; Anderson et al. 1989; Manci et al. 1987; NDOW 1989).

Reasonably Foreseeable Airspace Designations. The proposed airspace designations would enlarge the area that would be affected by overflights. There would be no increase in the number of flights, so flights would become more dispersed. Wildlife in these areas could be subject to some startle effects, but studies of effects from existing flight activities suggest that they would not be significant (NDOW 1989; Krausman 1993a, b, c; Ellis et al. 1991; Anderson 1989; Manci et al. 1987).

Geology and Soils

Existing Withdrawals. Surface and subsurface soils near the impact areas in the training ranges may contain low concentrations of residue from ordnance. The area of effect is limited and isolated; therefore, it is not considered significant. No impacts to soil quality have occurred from the use of chaff. Laboratory tests of chaff conducted by the Air Force using a modified toxic characteristics leaching procedure indicated little or no potential for adverse effects on soil (US Air Force 1997).

Proposed Range Safety and Training Land Withdrawal. Potential minor impacts to soils and geology include potential erosion and soil compaction during development of EW, TACTS, and visual cueing device sites and construction and use of any new roads or utility corridors, if needed. These effects would be avoided or mitigated through natural resource management techniques or through standard geotechnical engineering and design.

B-16 Airspace Designation and Disestablishment. No impacts to geologic resources are anticipated from the B-16 airspace designation and disestablishment.

Reasonably Foreseeable Airspace Designations. No impacts to geologic resources are anticipated from the airspace designations.

Water Resources

Existing Withdrawals. The effects of the existing withdrawals on perennial streams and springs in the region are not known but significant effects are not expected to have occurred. It is likely that land-disturbing activities on the withdrawn lands may have caused an increase in sedimentation in some of the surface water resources. There is no indication that significant impacts to surface water resources have occurred as a result of land withdrawals. There are water rights for 114 AFY of ground water and 18 AFY of surface water in Rawhide Flats hydrological basin affected by B-19. The Navy does not hold these water rights. No significant impacts to surface water have occurred as a result of the withdrawal at B-19. The Navy holds water rights to 10,269 AFY of surface water in the Newlands Reclamation Project and to 2,298 AFY of ground water in Carson Desert. In addition, the Navy owns 3,168 acres of water-righted land in the Dixie Valley. Only a part of the surface water allocated to the Navy is used; NAS Fallon actions have not resulted in a lowering of the area water table and have not exceeded existing water rights.

No significant impacts to water quality have been documented from the use of chaff. Chaff is insoluble in water and would be filtered out before entering drinking water systems. Studies show an insignificant increase in metals content in water spiked with chaff. The use of airspace associated with NAS Fallon has had no known effects on water resources (US Navy 1997c; SAIC 1991). Neither chemical nor physical effects are expected to occur to drinking water sources

exposed to chaff. The quantities of chemicals released are too small to be of concern, and filtering systems would remove any fiber (US Air Force 1997).

Proposed Range Safety and Training Land Withdrawal. The primary impact to water resources would occur on Category A lands. No new developments would be allowed, and access to four existing water developments would be closed except to BLM and NDOW.

B-16 Airspace Designation and Disestablishment. No impacts to water resources are anticipated from the B-16 airspace designation and disestablishment.

Reasonably Foreseeable Airspace Designations. No impacts to water resources are anticipated from airspace designations.

Cultural Resources

Existing Withdrawals. The construction of NAS Fallon took place before the enactment of the NHPA. At that time, no requirement existed for identifying and evaluating cultural resources prior to construction. Cultural resource surveys have been performed for specific development proposals subsequent to enactment of the NHPA. The surveys have indicated the existence of more than 100 cultural resource sites at the station. Numerous sites have been recorded on B-17 and B-19, although only limited areas have been subjected to archeological survey. No recorded sites are located on the EW sites. A CRMP and PA have been prepared for NAS Fallon-administered lands (US Navy 1993a), and this document sets forth a plan for identifying, evaluating, and managing NAS Fallon cultural resources, consistent with Section 106 of the NRHP. Airspace use in the FRTC has a limited potential to affect cultural resources (SAIC 1991).

Proposed Range Safety and Training Land Withdrawal. The Carson Desert Predictive Model is one tool that would be used to delineate areas potentially containing archeological resources. These areas would be avoided when siting facilities. Site-specific surveys would be conducted as needed. The Navy would comply with the NHPA and with the procedures outlined in the NAS Fallon CRMP and PA. Ground training exercises would not significantly affect cultural resources. Ground vehicles would use existing trails and roadways, and foot traffic would be dispersed over a wide area. Officers in charge of ground training operations would be provided information to assist them to avoid damage to culturally valuable areas.

B-16 Airspace Designation and Disestablishment. No impacts to cultural resources are anticipated from the B-16 airspace designation and disestablishment.

Reasonably Foreseeable Airspace Designations. The lands under the airspace have the potential to contain cultural resources. The location and type of resources are unknown at this time. The Navy would have to undertake some effort to identify

cultural resources and evaluate potential effects to cultural resources and determine their significance in the area of the MOAs from low altitude flights, as per the requirements of the CRMP and PA.

Environmental Justice & Socioeconomics

Existing Withdrawals. NAS Fallon received a change in designation from a naval auxiliary air station to a naval air station in 1972. This redesignation was responsible for a significant increase in the population of Churchill County from 1970 to 1980. In 1994, there were 2,330 jobs directly and indirectly associated with NAS Fallon, including contract employees. Therefore, NAS Fallon employs about 30 percent of Churchill County's residents. Although NAS Fallon and FRTC land withdrawals have reduced the area available for grazing and livestock production, mining production, and recreation in the region, the economic losses due to the land withdrawals are offset by income and employment benefits generated by the station.

All populations are equally impacted by Navy operations; therefore, there are no disproportionate high and adverse effects to minority or low-income communities.

Proposed Range Safety and Training Land Withdrawal. The proposed land withdrawal would not have disproportionate high and adverse human health or environmental effects on minority or low-income communities. Lands belonging to the Walker River Indian Reservation and the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony are in close proximity to the withdrawal areas. However, Native American populations do not use the proposed withdrawal lands for grazing, mining, or recreation in a higher proportion than other segments of the population. Socioeconomic impacts resulting from the closure of Category A lands could occur.

All populations would be equally impacted by Navy operations on the withdrawn lands; therefore, no disproportionate high or adverse effects are expected to minority or low-income communities.

B-16 Airspace Designation and Disestablishment. Airspace designations and disestablishments associated with B-16 are not expected to have any socioeconomic impact. Beneficial impacts are expected from the proposed change in flight patterns at B-16. During public scoping, state officials and local residents voiced concerns about noise resulting from the existing approach pattern to B-16. The current approach has resulted in complaints from residents living north of B-16. The proposed approach would use airspace south of B-16 over public land that is undeveloped and sparsely populated. Therefore, the decreased overflight west of Fallon and north of B-16 would be a beneficial impact for all residents in the Sheckler District regardless of income and race.

The Churchill and Ranch High MOAs would be designated over and north of the Walker River Indian Reservation. Relocating the flight operations from R-4803N to the MOAs would increase noise levels south of B-16; however, military air operations would occur north of the reservation and at a high altitude (approximately 5,000 feet AGL) when directly above the reservation. Although audible, the noise levels would be less than 60 dB, a noise level that can be compared to the sound of an air conditioner operating 100 feet away. Activities such as grazing, recreation, ranching, and mining would not be affected by the proposal. The operations in the proposed Churchill High MOA would not significantly affect most activities in the reservation because these aircraft would be at an altitude higher than historical operations in the Ranch MOA. For these reasons, the proposed change in flight patterns was not found to have disproportionate high and adverse human health or environmental effects on Native American populations.

Reasonably Foreseeable Airspace Designations. Airspace designation and disestablishment are not expected to have any socioeconomic impact or result in disproportionate high and adverse human health or environmental effects on minority or low-income populations.

Air Quality

Existing Withdrawals. Existing land withdrawals at NAS Fallon have not resulted in levels of emissions causing violations of state or federal ambient air quality standards. Sources of emissions include stationary sources at the air station, vehicle exhaust emissions, aircraft emissions, and fugitive dust emissions from vehicle use of dirt roads. The use of chaff has not significantly impacted air quality. Chaff quantities released at one time are not great and do not break down to concentrations small enough to cause an impact. According to chaff testing conducted by the US Air Force, it is believed that most chaff fibers maintain their integrity after ejection. Although some fibers are likely to fracture during ejection, it appears that this does not result in the release of PM₁₀. The tests indicated that the explosive charge in the impulse cartridge results in minimal nonsignificant releases of PM₁₀. Therefore, it appears that chaff deployment would not result in an exceedances of the federal or state ambient air quality standards (US Air Force 1997).

Proposed Range Safety and Training Land Withdrawal. Constructing EW, TACTS, and visual cueing device sites would temporarily impact air quality, especially in the generation of particulate emissions. The effects would be mitigated through standard dust controls, such as watering. Integrated air and ground training, which includes helicopter hovering, would create dust impacts. This would almost always occur in remote areas and would be a localized and temporary effect.

B-16 Airspace Designation and Disestablishment. The B-16 airspace designation and disestablishment would not increase training operations and would not affect local

air quality. Churchill County is in an unclassified/attainment area for the federal ambient air quality standards; therefore, this action would not require a Clean Air Act conformity determination.

Reasonably Foreseeable Airspace Designations. The additional MOAs would allow military aircraft to train over a larger area compared to existing conditions. All of these MOAs are in areas that are unclassified/attainment for the federal ambient air quality standards; therefore, this action would not require a Clean Air Act conformity determination.

Noise

Existing Withdrawals. The primary source of noise associated with NAS Fallon is aircraft sortie take-offs and landings. Noise was evaluated at all of the FRTC training ranges in the 1982 RAICUZ study (US Navy 1982b), was updated at the air station in the 1992 AICUZ study (US Navy 1992), and was updated at B-16 in a 1995 noise study (US Navy 1995). The 1995 study, which plotted Ldn contours at B-16, found that residential developments near the Sheckler Reservoir are outside the 60 dB Ldn contours. Other non-Navy noise sensitive areas in the county, such as the Stillwater Wildlife Management Area, Fallon National Wildlife Refuge, and Stillwater National Wildlife Refuge and the Walker River and Fallon Indian Reservations are not significantly affected by Navy operations at B-16 (US Navy 1995). An MOU between the Navy, Department of the Interior, and the State of Nevada concerning use of airspace by NAS Fallon allows for no flights below 3,000 feet over Carson Lake and the Stillwater National Wildlife Refuge when tactically feasible.

Noise from aircraft operating in Restricted Areas, MOAs, and MTRs associated with the FRTC has affected parts of Churchill, Lander, Mineral, Nye, and Eureka Counties. Training operations with the greatest effects may include low-level flights, peak flyover events, repetitive flight patterns such as circling, and sonic booms.

Supersonic aircraft operations are conducted in the NAS Fallon special use airspace, within certain parts of the Gabbs North and Central and Austin One MOAs. It is estimated that about 310 persons reside under this airspace. Sonic booms occur at random throughout the area and in 1989 occurred at an average overpressure that was sufficient to startle some humans and animals (SAIC 1991). Studies conducted by the State of Nevada have determined that sonic booms do not adversely affect wildlife (NDOW 1989) or human health.

Proposed Range Safety and Training Land Withdrawal. The land withdrawal would not in and of itself cause an increase in aircraft operations and associated noise. Constructing Navy-developed sites would result in noise of short duration. Noise from integrated air and ground training could result in disturbance to public land users in close proximity to operating helicopters. Most training occurs during the

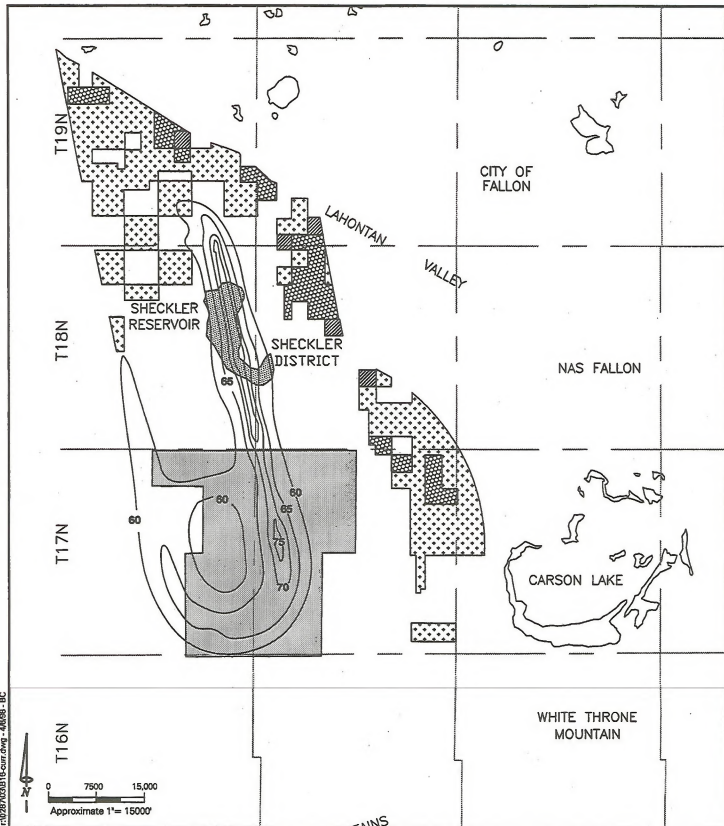
week, and approximately one-half of the training occurs at night, reducing the potential for training to occur during other uses of the land. In addition, because the objective of training is to remain undetected, it is standard operating procedure to avoid training near other land users.

B-16 Airspace Designation and Disestablishment. In response to concerns about aircraft operations north of B-16, the Navy initiated two noise studies. The 1995 Aircraft Noise Study for the B-16 Range Complex (US Navy 1995f) used the DOD-approved NOISEMAP model and 1994 "busy day" operations data to update the noise contours around B-16. A busy day is defined as any 24-hour period in which the day's total operations are at least 50 percent of the annual average daily operations. The average busy day Ldn contours are shown on Figure 6-3. With the current operations and airspace configurations near B-16, the City of Fallon and residential developments near Sheckler Reservoir are outside the 60 dBA Ldn contours. While these areas are outside the 60 dBA Ldn contours, concerns as to noise levels north of B-16 still were raised at the scoping meeting by residents and by the State of Nevada.

The 1996 Aircraft Noise Study for the Proposed B-16 Range Complex (US Navy 1996b) evaluated noise levels of the proposed airspace designation and disestablishment using the same DOD-approved NOISEMAP model and the same 1994 "busy day" operations data as the 1995 study of existing noise conditions. Figure 6-4 illustrates the modeled noise contours around B-16 if this action were implemented. As shown on Figure 6-4, City of Fallon and Sheckler District residents would be well outside the 60 dBA Ldn contour lines under proposed modified flight approach patterns.

Given that the land south of B-16 is rural undeveloped public land and that there are no nearby permanent settlements, this action would mitigate noise concerns north of B-16 while not causing significant noise impacts south of B-16. Aircraft would approach B-16 at 9,500 MSL (5,000 feet AGL), which would minimize startle effects. Noise levels over the Walker River Indian Reservation would not exceed an average Ldn of 60 dB and would not result in a significant impact, as described in the Environmental Justice and Socioeconomics section.

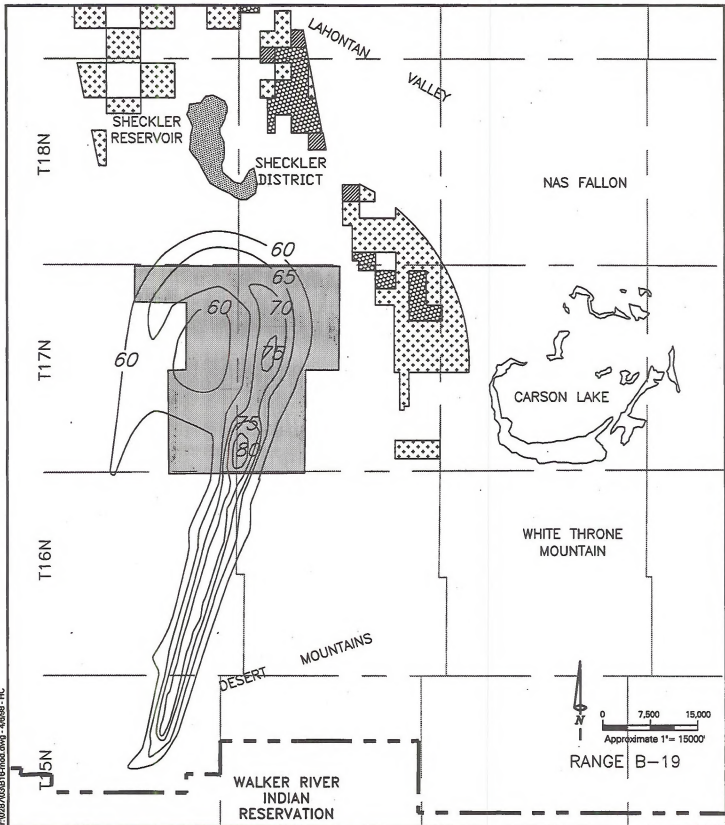
Reasonably Foreseeable Airspace Designations. The reasonably foreseeable airspace designations have the potential to affect noise levels. Creating the Diamond, Duckwater, and Smokey MOAs would enlarge the area in which noise effects would be recorded. Noise effects would be relatively greater under Smokey MOA, given that the MOA floor could be at 200 feet AGL. Such low-level flights would affect sensitive receptors below the flight path. The area of supersonic operations may be expanded as part of the Diamond MOA; however, the flight activity in the new MOAs would be very dispersed and generally would be conducted at altitudes above 15,000 feet AGL. In addition, the area underlying this airspace is not densely populated, and sensitive receptors in the area are few.



Average Busy Day Noise Contours at B-16 Under Current Conditions

NAS Fallon, Nevada

Figure 6-3



The Navy has proposed flight approach patterns to alleviate noise impacts north of B-16 in the Sheckler District.

LEGEND:

- 60 — Ldn Contours
 Existing Range B-16
 Sheckler Reservoir

Dwelling Units per Quarter Section (160 acres)

- 0-5
 6-15
 16 and Greater

**Average Busy Day
 Noise Contours at B-16
 Under Modified Conditions**

NAS Fallon, Nevada

Figure 6-4

Mining

Existing Withdrawals. The existing land withdrawals have removed land from mining availability. Although no significant mineral deposits are known to underlie NAS Fallon or the shoal site, some mineral deposits may underlie B-16, B-17, B-19, and the Dixie Valley area. Portions of four mining districts fall within or extend into the training ranges. These are the Camp Gregory District, which is covered in part by B-16; the Fairview District, which is affected by B-17; and the Cinnabar Hill mining area and Holy Cross District, which are affected by B-19. There is moderate to high potential for the development of one or more small- to medium-sized silver and gold deposits in the northeastern part of B-17. The area extending from Cinnabar Hill through the northeastern portion of B-19 has high potential for discovery and development of precious metal deposits.

Churchill County has extensive geothermal resources. Significant geothermal resources have been discovered in the Dixie Valley, primarily outside the proposed withdrawal area. Given the distribution of these resources, it is considered likely that the existing land withdrawals could be underlain by geothermal resources with moderate to high development potential. B-19 is considered to have better than average geothermal potential. Exploration that has taken place around Fallon indicates that the geothermal resources of NAS Fallon lands would be capable of supporting development of a geothermal powerplant. The Navy is examining the possibility of developing geothermal resources at NAS Fallon to generate power and for heating purposes, and initiated the environmental review process for this proposal. Based on the geology and the results of exploration in the region, oil and gas potential is considered to be low for all lands that are currently withdrawn (SAIC 1991).

Proposed Range Safety and Training Land Withdrawal. The most significant impacts to mining would occur on Category A lands, where mining activities would be closed to protect public safety. The Navy would explore means to compensate holders of patented or valid unpatented mining claims, subject to Congressional authorization and appropriation, upon Congressional approval of the proposed withdrawal. The loss of revenue from undeveloped resources is an unmitigable impact. Potentially significant impacts to mining on Category B lands could occur in that no patenting of unpatented mining claims would be allowed after withdrawal. Mineral exploration and mining of the resources would not be restricted except for development of structures over 50 feet in some areas. There are no areas of high mineral potential on Category B lands except in the Wonder District located in the Dixie Valley area; only a small portion of the Wonder District falls within the withdrawal boundary. Applications for BLM permits for mining on Category B lands would allow for Navy review and approval to assure compatibility with training operations.

B-16 Airspace Designation and Disestablishment. The B-16 airspace designation and disestablishment would have no effect on mining.

Reasonably Foreseeable Airspace Designations. The airspace designations would have no effect on mining.

Grazing

Existing Withdrawals. Existing land withdrawals in Churchill County have taken land out of potential grazing and livestock production. Given the topography, climate, and vegetation in the region and the prevalence of ranching and grazing around the withdrawn lands, it is likely that these lands were under grazing prior to their withdrawal. Agricultural outleases are issued each year for approximately 3,595 acres of Navy land on-station and approximately 9,000 acres in the Dixie Valley area. These lands are water-righted and held in fee simple. Livestock and feed production are the chief uses of the land leased to the public. Greenbelt areas provide fire suppression and dust control around the air station.

Based on available data, the use of chaff has not adversely affected livestock. Previous studies have been conducted to address ingestion effects of chaff on animals. Cattle and goats apparently avoided eating clumps of chaff placed in their feed. Calves fed chaff in dry meal would consume the chaff only when it was coated with molasses and thoroughly mixed into the meal. A similar study using cattle and goats found that the animals avoided consuming intact chaff (Naval Research Laboratory 1995).

Proposed Range Safety and Training Land Withdrawal. No livestock grazing would be permitted on Category A lands. A maximum of 1,130 AUMs could be affected, or 1.4 percent of the 80,000 AUMs in the region formally organized into the Lahontan Resource Management Area. The Navy would explore means of compensating holders of affected grazing permits, pursuant to the Taylor Grazing Act and subject to Congressional authorization and appropriation, upon Congressional approval of the proposed withdrawal. Lost grazing opportunities on Category A lands are an unmitigable impact. Grazing would not be permitted on fenced Navy-developed sites, but this would not be a significant impact because of the small acreage that would be affected. The proposed land withdrawal would not significantly impact grazing or wild horse management on adjacent Category B lands. Applications for BLM permits for grazing on Category B lands would require Navy review and approval. Approval generally would be granted if development was compatible with Navy training operations.

B-16 Airspace Designation and Disestablishment. The B-16 airspace designation and disestablishment would have no effect on grazing.

Reasonably Foreseeable Airspace Designations. The airspace designations would have no effect on grazing.

Recreation

Existing Withdrawals. NAS Fallon is situated in an agricultural valley. It is likely that the withdrawn lands had only a low recreation potential relative to other areas of Churchill County. Accordingly, the land withdrawal for the station probably did not affect recreational resources of the region significantly. Because wilderness regions were defined after the withdrawals were enacted, none of the current WSAs are affected. A variety of outdoor recreation could occur on the existing training ranges if these lands were accessible to the public. It is likely that the training range withdrawals and lands closed under BLM emergency closure order have reduced the amount of land available for hunting in Churchill County, especially for upland game.

Recreation in the region also has been affected by the special use airspace associated with NAS Fallon. A survey of recreationists conducted in the vicinity of NAS Fallon indicated that about 20 percent were so affected by aircraft disturbance that they would be reluctant to return to the region for recreation. MOAs extend over the WSAs and established recreation facilities. An MOU between the Navy, Department of the Interior, and the State of Nevada concerning use of airspace by NAS Fallon allows for no supersonic aircraft flights below 2,000 feet AGL over WSAs when tactically feasible and no flights below 3,000 feet AGL over Carson Lake and the Stillwater National Wildlife Refuge when tactically feasible. While these measures have combined to minimize impacts on recreation, recreation opportunities could nonetheless be affected by aircraft activity in the region.

Proposed Range Safety and Training Land Withdrawal. The greatest impacts to recreation would occur on Category A lands where access would be denied. While lost recreational activity on these lands is not mitigable, recreational opportunities would still be available on other lands in the area. Potentially significant impacts to recreation also could occur from Navy activities on Category B lands. The presence of these activities could alter the social character of the area, and may discourage use of the lands for recreation even though recreation itself would not be restricted. Applications for BLM permits for recreation on Category B lands would require Navy review and approval. Approval would be granted if the proposed recreational use is compatible with Navy training operations. The Pony Express National Historic Trail would not be impacted. The trail is not on lands proposed to be withdrawn; therefore, access on the trail would not be restricted. If there is an organized re-enactment of the Pony Express Trail ride, the Navy will work with trail personnel to alter flight activities during the event if compatible with training needs at the given time.

B-16 Airspace Designation and Disestablishment. The airspace designation and disestablishment would result in decreased noise levels north of B-16, benefiting recreation in the Sheckler District. The action would result in increased noise levels south of B-16, potentially affecting recreation south of B-16 during times

that aircraft training is occurring. If there is an organized re-enactment of the Pony Express Trail ride, the Navy will work with trail personnel to alter flight activities during the event if compatible with training needs at the given time.

Reasonably Foreseeable Airspace Designations. The airspace designations and associated military flights could reduce recreational values from increased noise. Noise levels in the Diamond and Duckwater MOAs would not be as intense as under the Smokey MOA.

Visual Resources

Existing Withdrawals. The establishment of NAS Fallon has not significantly affected the visual resources in the region because the station is located in an agricultural valley where some settlement had already occurred prior to the construction of the station. The training ranges have resulted in land-disturbing activities and the construction of structures in areas that formerly were rugged undisturbed terrain. However, as these lands are not open to the public, most of these areas are not viewed by a large number of people, although travelers along regional roads and highways may be subjected to some disturbed landscape. The airspace designations associated with NAS Fallon have had no effects on visual resources.

During surveys for chaff on a portion of the Dixie Valley area in 1994 and 1995, evidence of chaff activity was found within the boundaries of the WSA, which may affect the visual quality of this area because wilderness areas are meant to show no effects from human presence. However, due to the generally wide dispersion patterns, visual effects from chaff are expected to be minimal.

Proposed Range Safety and Training Land Withdrawal. Navy activities, including site development and integrated air and ground training, would be visible to other users of public lands. The visual impacts of site development would be reduced by using colors that blend with the background. Fencing around Category A lands would be visible to travelers on nearby roadways; however, fencing is common throughout the region. The lands to be withdrawn are not to be used as target areas, and there is no increase to weapons impact areas proposed.

B-16 Airspace Designation and Disestablishment. The B-16 airspace designation and disestablishment would have no effect on visual resources.

Reasonably Foreseeable Airspace Designations. The airspace designations would have no effect on visual resources.

Public Health and Safety

Existing Withdrawals. Aircraft mishaps and objects dropped from aircraft are potential hazards to public safety in the NAS Fallon region. As noted in Chapter 5, the chance of people or structures being hit by such objects is very small.

Ordnance intended to be dropped on B-16, B-17, and B-19 has fallen inadvertently on public lands and the Walker River Indian Reservation adjacent to these training ranges. During surface sweeps in 1989 and 1990, live and practice/inert ordnance and ordnance scrap were found and retrieved on 24,464 acres of land around the training ranges; the effectiveness of surface sweeps in clearing ordnance was estimated to be between 90 and 97 percent. Areas presenting the greatest risk of unexploded buried ordnance are those near B-19 and B-17. These approximately 24,464 acres of land are under closure by the BLM, and the BLM has requested that the Navy post signs and/or fence these areas.

None of the materials contained in chaff are known to pose a health hazard. Based on the data available, the materials (aluminum, stearic acid, and silica fiberglass) are irritants and therefore pass easily through the system of those species that might ingest them (SEA 1989; Bohman 1991). Chaff is not known to break down into particles small enough to be an inhalation risk, nor does the type of chaff used at NAS Fallon and elsewhere in the US cause allergic contact dermatitis. US chaff manufacturers, when contacted, revealed no instances of allergies or irritation among their employees. These manufacturers stated that while employees are provided with protective gowns and masks, very few choose to use them (Naval Research Laboratory 1995). The General Accounting Office currently is studying the effects of chaff use on the human and natural environment

Proposed Range Safety and Training Land Withdrawal. The proposed land withdrawal would benefit public health and safety by improving the public protection from potential and existing off-range ordnance. The operation of EW sites presents no hazards. The levels of electromagnetic radiation associated with the sites are low (10 times less than levels generated by a cellular phone). The sites are fenced, and lights indicate when the site is operational.

B-16 Airspace Designation and Disestablishment. The change in B-16 flight paths would not increase public health hazards because the action shifts flight activity from north of B-16 to south of B-16 where the population is significantly less.

Reasonably Foreseeable Airspace Designations. The NAS Fallon SUA alterations would slightly increase the hours of use of the airspace. As no increase in sorties is planned, the increase in use time would reduce the hourly frequency of flying in the region and would enhance safety. Establishing future MOAs would increase the area that is at risk from objects dropped inadvertently by aircraft and aircraft mishap. However, due to low population density, the risk factor under the airspace is extremely low.

Transportation

Existing Withdrawals. The existing land withdrawals have not affected any major transportation routes in the region because major roads were avoided when these withdrawals were enacted. Airspace designation and use have affected civilian

aviation in the region. Typically, restricted areas are used by military aircraft from 7:15 AM to 11:30 PM (local time), Monday through Friday, and for a somewhat shorter period on Saturdays. Civilian aircraft are free to use MOAs when military activity is occurring; however, in practice civilian aircraft often are routed out of the MOAs (SAIC 1991).

Proposed Range Safety and Training Land Withdrawal. The proposed land withdrawal would not affect any major highways in the region. Local roads historically used to access mining areas would be located in Category A-designated lands, except for the gas pipeline road east of B-19 that has been swept and cleared and is safe for public access. These roads are closed under the BLM emergency closure action and would continue to be closed to public use. While alternative routes may be identified, the loss of an existing road is an unmitigable impact. No increase in local traffic is expected from the proposed withdrawal.

B-16 Airspace Designation and Disestablishment. Airspace designation and disestablishment at B-16 would not impact regional roads and highways. Creating the new Churchill and Ranch High MOAs would allow for the disestablishment of R-4803N, the northern portion of R-4803S, and the western portion of the Ranch MOA (see Figure 6-4). The FAA has reviewed and supports the designation and disestablishment of this airspace; there is no indication that civil air traffic would be affected. None of the proposed changes in designated airspace occur in a major airway, and airspace disestablishment reduces potential conflicts with commercial airways.

Creating the Churchill Low and Churchill High MOAs would result in a new flight training area beginning at 500 AGL, ending at 18,000 feet above mean sea level, and overlaying 109 square miles. Adding the Ranch High MOA would raise the flight training ceiling from 9,000 MSL to 13,000 MSL for the western area of the remaining portion of the Ranch MOA. The net effect of the proposed changes under this alternative, including the changes to R-4803N/S and the Ranch MOA, would be to reduce the area under designated airspace by 112 square miles. Chaff is not and would not be released in the airspace around B-16.

The proposed airspace configuration changes would benefit general aviation in that the Hazen VORTAC (Very High-frequency Omni-directional Radio Range Tactical Aid-to-navigation) would be unencumbered by restricted airspace. This would facilitate instrument and VFR approaches to the Fallon, Silver Springs, and Reno airports. Additionally, the V105-564 airway between Mustang and Mina would no longer pass through the Ranch MOA.

Reasonably Foreseeable Airspace Designations. Establishing the Diamond, Duckwater, and Smokey MOAs would encourage civilian aircraft to use this airspace with assistance from air traffic controllers. Establishing new restricted areas above the four existing restricted areas essentially would raise the ceiling of

restricted areas to FL450 from the current levels. Currently, these proposed restricted areas fall within an established ATCAA, and nonhazardous military use occurs through coordination with the Oakland and Salt Lake Centers. With the designation of the proposed restricted areas, the Navy would use the airspace at designated use times, and civilian aircraft would be routed around these areas. The net effect would be that a larger vertical airspace around Fallon would be restricted for military aircraft to conduct hazardous operations. To protect civilian pilots, aircraft would be rerouted around that airspace by FAA and NAS Fallon air traffic controllers. The change to Gabbs Central MOA would improve conditions for civilian aircraft operations in the vicinity of Gabbs Airport. Airspace designations would not impact regional roads and highways.

6.3 EXISTING AND PROPOSED WITHDRAWN LANDS AT OTHER DOD AND DOE SITES IN NEVADA

There are two other primary Department of Defense facilities in Nevada—Hawthorne Army Depot and Nellis Air Force Base (Figure 6-1). The DOE also has withdrawn lands or uses land in Nevada. The Special Nevada Report (SAIC 1991) provides data on the existing environmental conditions relating to DOD and DOE land withdrawals up to 1991; this information is incorporated by reference. This section briefly introduces the DOD sites and DOE land holdings. Data are provided where specific environmental conditions have changed since the Special Nevada Report was published.

6.3.1 Hawthorne Army Depot

Hawthorne Army Depot (HWAD) is located on the southern shore of Walker Lake in Mineral County, west-central Nevada. The depot is approximately 120 miles southwest of Reno and 90 miles south of the City of Fallon. HWAD was established in 1928 as the Hawthorne Navy Ammunition Depot, the primary west coast ammunition, explosives, and ordnance facility. The depot was transferred to the Army in 1977 and named the Hawthorne Army Ammunition Plant. In 1980 the facility became a government-owned, contractor-operated facility and in 1995 it was renamed Hawthorne Army Depot. The mission of the depot has remained fairly constant since its establishment, though the volume of munitions handled increased during World War II and again in recent years, due in part to Congressionally mandated base realignment and closure actions.

HWAD consists of approximately 147,431 acres of land, 90 percent of which are withdrawn and the rest of which were acquired by the Department of the Army. HWAD uses additional lands south of the depot through a lease agreement with the US Forest Service. The Special Nevada Report (SAIC 1991) included a foreseeable land withdrawal of approximately 586,000 acres adjacent to HWAD for the Army's Reserve Component Training Center, but stated that this project was not being actively pursued. This project is no longer foreseeable and no other new land withdrawal actions have been formally proposed by HWAD.

6.3.2 Nellis Air Force Base

Nellis Air Force Base is located approximately eight miles northeast of the City of Las Vegas, in Clark County. The Nellis Air Force Range occupies over three million acres of acquired and withdrawn land between Tonopah and Las Vegas within Clark, Nye, and Lincoln Counties. The withdrawn lands administered by Nellis AFB include approximately 2,945,000 acres within the NAFR as authorized under PL 99-606, approximately 89,600 acres adjacent to the PL 99-606 withdrawal as authorized by PL 100-338, and approximately 3,972 acres near Groom Lake as authorized by PLO 7131. Environmental conditions at Groom Lake are similar to other withdrawn lands in the NAFR; however, these lands have not been exposed to military ordnance or nuclear testing. Prior use of the land was multiple public uses, including recreation.

Nellis AFB has been used for flight operations since 1929. Until 1940 the field consisted of dirt runways, a few buildings, and related utilities. In 1941, the City of Las Vegas purchased and improved the field for use in training civilian pilots. Later that year, the field was offered to the Army Air Corps for use as a gunnery school. Air-to-air gunnery training was started in 1942 and concentrated on training B-17 gunners. Early in 1945, B-29 gunnery and B-24 copilot training replaced the B-17 program. Later that year, the base was deactivated. It was reactivated in 1949 as the host of the Air Training Command's 3595th Pilot Training Wing for advanced single-engine training. A US Air Force Aircraft Flexible Gunnery School also was established at the base in 1949. Its mission was to train instructors in all phases of fighter gunnery, rocketry, and dive bombing. Eventually, this effort became the core of the Nellis AFB mission.

On October 29, 1940, President Roosevelt established the Las Vegas Bombing and Gunnery Range, now called Nellis Air Force Range. From 1940 until 1959, co-use of portions of the NAFR was granted to cattlemen and miners. A training camp was established in 1942 at Indian Springs, Nevada, to facilitate air-to-air gunnery training for aircrews. The camp was designated as Indian Springs Auxiliary Air Field on April 1, 1964. This airfield is now designated Indian Springs Air Force Auxiliary Field (AFAF) and provides support and maintenance for the NAFR Complex. Nellis AFB was transferred from Air Training Command to Tactical Air Command (TAC) in 1956. TAC reorganized the base in 1966 and established the Tactical Fighter Weapons Center (TFWC). At the same time, the Fighter Weapons School (FWS) was transformed into the 4525th Fighter Weapons Wing (FWW), and was later changed to the 57th FW.

A portion of the Desert National Wildlife Range (DNWR), which was established in 1936 for the protection and preservation of desert bighorn sheep, is within the NAFR. In order to provide for the protection of bighorn sheep and wild horses, the Air Force, USFWS, and BLM entered into Memoranda of Understanding (MOUs) in 1951 and 1962. The MOUs have been updated and amended, as necessary, to ensure proper management by the respective agencies.

Public land orders transferred portions of the Nellis AFR to the Atomic Energy Commission, which later became the DOE, for the development of the Nevada Test Site. Pahute Mesa was delegated to DOE through an MOU with the Air Force for the testing of nuclear weapons. In addition, the Air Force permitted 336,665 acres in November 1956 to the Albuquerque Operations Office of the DOE for use as a fully-instrumented ballistic test range. This area is now referred to as the Tonopah Test Range (TTR).

6.3.3 Department of Energy

In the years following World War II, a suitable area was needed to conduct nuclear weapons testing. The criteria for such an area were low population density, favorable geology and year-round weather conditions, safety and security, accessibility, and available labor resources. An area within the Nellis Air Force Bombing and Gunnery Range, as Nellis Air Force Range was then called, met these requirements. In 1952, the land was withdrawn for the Nevada Test Site (NTS). Additional land was acquired through other withdrawals in 1958, 1961, and 1964, and through an MOU with the Air Force in 1967 for use of Pahute Mesa. Pahute Mesa is considered as part of the NTS for this report.

The NTS has served primarily as a proving ground for the testing and development of nuclear weapons. There were more than 685 announced nuclear detonations on the NTS from 1951 through 1988. All nuclear detonations since 1962 have been conducted below ground. One hundred tests were conducted above ground prior to 1962. Over the years, the NTS has been used for many secondary purposes related to nuclear energy or the effects of radioactivity (SAIC 1991).

The Department of Energy has withdrawn land at three sites in Nevada—the NTS, Central Nevada Test Area, and the shoal site. DOE uses land at two sites—Pahute Mesa and TTR, and has proposed to enter into partnership agreements with local agencies at three sites—Eldorado Valley, Dry Lake Valley, and Coyote Spring Valley.

6.4 CUMULATIVE IMPACTS OF DOD AND DOE ACTIVITY IN NEVADA

This section discusses the cumulative effects of DOD and DOE use of existing withdrawn lands and from future use on proposed withdrawn lands in Nevada. The purpose of this analysis is to provide a programmatic analysis of potential cumulative impacts from DOD and DOE activities. This section does not replace or supercede the findings of the Special Nevada Report (SAIC 1991). The term "withdrawn land" is used to encompass current withdrawals and those being actively pursued as discussed above. The region of influence for the analysis includes the following counties—Churchill, Pershing, Mineral, Nye, Lincoln, Clark, and Esmeralda. Table 6-2 shows the public laws and land orders and agreements that withdrew or allow DOD and DOE to use lands in Nevada.

Table 6-2
Former, Existing, and Proposed DOD and DOE Land Withdrawals and Lands in Use in Nevada

PL/PLO/MOU/Other Use Agreements	Date of Enactment	Acreage	Area
NAS Fallon			
PLO 275	April 23, 1945	160	NAS Fallon
PLO 788	January 10, 1952	2,400	NAS Fallon
PLO 898	June 12, 1953	17,280	B-16
		21,400	B-17
		17,332	B-19
Withdrawn land returned in:	1965	272,000	Black Rock Range
	1967	519,000	Sahwave Range
PLO 2635	March 20, 1962	967	NAS Fallon
PLO 6300 ¹	July 22, 1982	None	B-17
PLO 6834	February 11, 1991	400	NAS Fallon
PL 99-606	November 6, 1986	21,576	B-20
Proposed Range Safety and Training Public Land Withdrawal ²	—	127,365	Around B-16, B-17, and B-19, shoal site, and the Dixie Valley area
Nellis Air Force Base			
PL 99-606	November 6, 1986	2,945,000	Nellis Air Force Range
PL 100-338	June 17, 1988	89,600	Nellis Air Force Range
PLO 7131	1993	3,972	Groom Range
Department of Energy			
PLO 805	February 12, 1952	435,000	NTS
PLO 1662	June 20, 1958	38,400	NTS
PLO 2568	December 19, 1961	318,000	NTS
PLO 3759	August 3, 1965	21,108	NTS
MOU with Air Force ³	1982	106,240	Pahute Mesa (NTS)
MOU with Air Force ⁴	1956	624 sq. mi.	TTR
PLO 2771			Shoal Site ⁵
PLO 2834			Shoal Site
PLO 4338		640	Central Nevada Test Area
PLO 4748		1,920	Central Nevada Test Area
Proposed partnership agreement	Proposed	6,000	Eldorado Valley Solar Enterprise Zone
Proposed partnership agreement	Proposed	3,600	Dry Lake Valley Solar Enterprise Zone
Proposed partnership agreement	Proposed		Coyote Spring Valley Solar Enterprise Zone

¹ Amends PLO 898 by redefining the legal description of B-17. No acreage change.

² The proposed Range Safety and Training Public Land Withdrawal would withdraw an additional 10,400 acres around B-16, 33,400 acres around B-17, 12,200 acres around B-19, 68,600 acres in the Dixie Valley area, and 2,765 acres at the shoal site.

³ Pahute Mesa lands, withdrawn by the Air Force, are managed by DOE under an MOU with the Air Force.

⁴ Tonaph Test Range lands, withdrawn by the Air Force, are managed by DOE under an MOU with the Air Force.

⁵ The shoal site is proposed for withdrawal by the Navy under the Range Safety and Training Public Land Withdrawal EIS.

6.4.1 Biological Resources

Habitat conditions on withdrawn lands at HWAD, Nellis AFB, NAS Fallon, and DOE sites have been affected by construction and military activities, including the delivery of explosive ordnance and ground-based training, and from noise due to aircraft overflights and ordnance detonation. Continued use of the withdrawn lands would further degrade habitat conditions near impact areas. The habitat

quality at these areas, however, is already low due to past use. Wildlife on withdrawn lands may experience startle effects due to overflights. This can produce a variety of responses from short-term mild interest to extreme distress, which may result in fleeing, panic calling, reduced foraging, and reduced reproduction. The extent of the effect is a function of the type and intensity of activity, the wildlife species, population, habitat type exposed to the activity, and the nature and duration of the interaction. Past studies suggest that most ungulates and avian species potentially found on withdrawn lands habituate to aircraft noise (SAIC 1991), although the level of effect cannot be conclusively determined. It is evident that military activities have not had a widespread catastrophic effect on wildlife and vegetation in Nevada, though minor incidents such as fires have occurred on occasion. Continued use would result in similar effects as currently resulting from military operations.

6.4.2 Water Resources

It is likely that land-disturbing activities on the withdrawn lands may have caused an increase in sedimentation in some surface water resources. There is no indication that significant impacts to surface water resources have occurred as a result of land withdrawals and subsequent military use.

Ground water resources within withdrawn lands are not expected to be significantly affected by continued military and DOE activities. Ground water contamination has been identified at DOD and DOE sites and remediation programs have been adopted to mitigate effects. Monitoring and hazardous material and waste management policies have been implemented to prevent future actions that could result in ground water contamination.

Most withdrawn lands restrict access for the development of water sources. As the population of Nevada continues to expand, and the demand for water increases, these restrictions may hinder growth opportunities. Water management plans and access rights could be developed between the state and DOD or DOE if needed to address water demand issues.

6.4.3 Cultural Resources

Defense-related activities have impacted cultural resources located on withdrawn lands in Nevada. The Air Force, Navy, Army, and DOE have adopted or are developing cultural resource management plans to minimize future impacts. Inadvertent losses may still occur from military uses; however, historically and archeologically significant resources on withdrawn lands are not expected to be impacted.

6.4.4 Environmental Justice and Socioeconomics

Defense-related activities on withdrawn lands in Nevada are projected to contribute \$2,027,000,000 to the state Gross Regional Product by the year 2000 and employ approximately 22,000 people (SAIC 1991). This represents

approximately four percent of the total state Gross Regional Product and over two percent of total state employment. The primary economic trade-off of DOD and DOE use is the land use restrictions placed on withdrawn lands, which prevent or limit agriculture, grazing, mining, and recreation. The economic value of these foregone opportunities would not exceed current contributions to the state economy from the DOD and DOE.

All populations would continue to be equally impacted by defense operations; therefore, no disproportionate high and adverse effects are expected to minority or low-income communities.

6.4.5 Air Quality

Based on federal and state ambient air quality standards, source point compliance, and total emissions data as the measures of significance, air emissions from DOD and DOE activities do not result in significant regional air quality concerns (SAIC 1991). DOD and DOE air emissions are low and are released over large and sparsely populated areas so that the resulting pollutant concentrations are extremely low. The only significant air quality problems in Nevada are confined to urban areas of Reno, Lake Tahoe, and Las Vegas. The DOD activities near Las Vegas do not contribute substantially to the nonattainment status. Air emission inventories used in preparation of state implementation plans for nonattainment pollutants do not consider aircraft flight activity below 3,000 feet AGL.

6.4.6 Noise

Noise associated with military activity comes from aircraft overflights, helicopter operations, ground-based training, including vehicle operations, and live ordnance explosions. All withdrawn lands are remote and generally removed from most sensitive noise receptors. However, noise from overflight and sonic operations have adversely affected some residences and other sensitive land uses. As populations increase around NAS Fallon and Nellis AFB, the potential for noise complaints may increase. The City of Fallon and Las Vegas have adopted land use and building codes to try to reduce such incompatible land uses.

6.4.7 Mining

Lands withdrawn in Nevada for DOE and DOD purposes could contain deposits of gold, molybdenum, tungsten, lead, zinc, copper, and silver, numerous small deposits of base and precious metals, and commercially viable geothermal reservoirs. Most of the defense-related withdrawals are deemed either unfavorable or marginally favorable for oil and gas. Virtually all of these lands contain some form of industrial minerals and materials.

DOD and DOE land withdrawals in Nevada have excluded, and would continue to exclude, mining, petroleum, and geothermal industries from approximately six percent of the total acreage in Nevada that otherwise would be available for exploration and development.

6.4.8 Livestock Grazing and Agriculture

Military and DOE withdrawals have restricted some lands from potential livestock grazing and agricultural opportunities. While this has resulting in lost revenue from grazing and agriculture, revenue from military facilities likely exceeds that lost from grazing and agriculture. The continued use of withdrawn lands would have no effects on existing grazing and agricultural opportunities.

6.4.9 Recreation

The Special Nevada Report describes in detail the suitability of withdrawn lands in Nevada for recreational activities. This analysis determined that most withdrawn lands could support the same recreational activities that are performed on other undeveloped arid lands of the Great Basin and Mojave Deserts, including camping, hunting, hiking, ORV use, horseback riding, and rock hounding (SAIC 1991). While public access is generally restricted on most DOD and DOE withdrawn lands, these areas (and proposed withdrawal lands) do not contain unique recreational opportunities that cannot be found on nearby public lands. Therefore, while DOD and DOE use of withdrawn lands would continue to limit recreational activities, this is not expected to significantly impact recreational opportunities or quality. Aircraft operations have affected recreational resources in some areas from overflight noise.

6.4.10 Visual Resources

Most withdrawn lands used by the military and DOE are remote and similar in topography and scenic quality with surrounding lands. Land-disturbing activities, such as ordnance detonation, have affected the visual qualities by creating unnatural features, including structures and craters. Continued use of these areas may result in additional alterations to the viewshed. These effects, however, would not be significant because of the homogeneity within viewsheds and because there are few sensitive receptors, such as highways, homes, and high-use recreation areas, near the withdrawn lands.

6.4.11 Public Health and Safety

Current military activities do not cause unreasonable risks to the health, safety, or property of the citizens of Nevada (SAIC 1991). Continued use of withdrawn lands would not result in a direct increase in flight operations, therefore, the risk of public exposure to off-range ordnance or objects inadvertently released from aircraft would remain minimal. The continued use of chaff is not thought to adversely impact public health, though the General Accounting Office currently is studying the effects of chaff use on the human and natural environment. The addition of new airspace could result in risks from aircraft mishaps in previously unaffected areas.

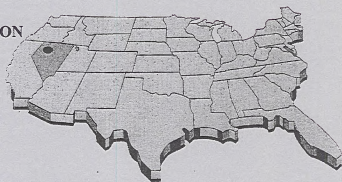
6.4.12 Transportation

Hazardous materials would continue to be shipped via pipeline, trucks, rail, and aircraft to DOD and DOE installations. Stringent regulations are in place by the DOD and DOE to minimize transportation risks. Accidents involving defense-related hazardous material are not known to be disproportional to other accidents; therefore, continued use of highways, rail lines, and airways would not have a significant impact on transportation safety.

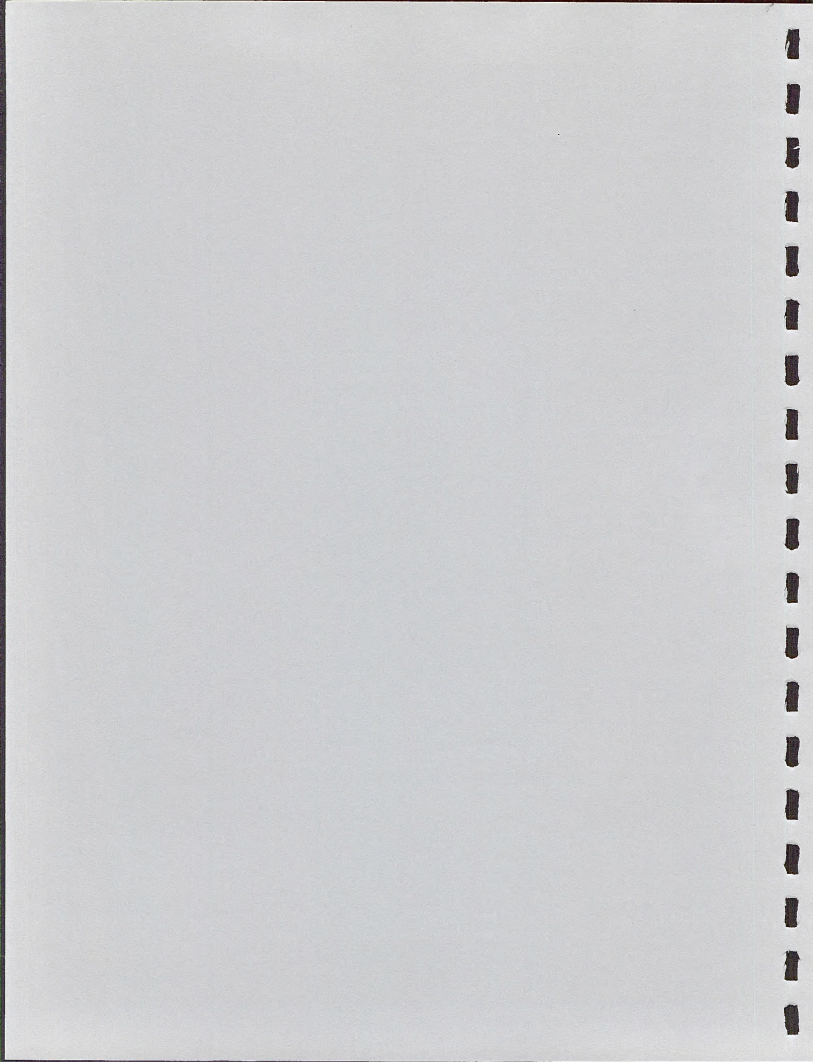
Continued use of the withdrawn lands would allow DOD facilities to continue aircraft training, ordnance deliveries, and integrated air and ground training. Restricted airspace would remain in place, requiring civilian aircraft to divert around these regions when they are in use by the military. New airspace could place additional restrictions on civilian aircraft, while airspace redesignation or disestablishment could reduce restrictions.

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7.0 CONSULTATION AND COORDINATION



CHAPTER 7

CONSULTATION AND COORDINATION

The following people were consulted during preparation of this LEIS. Scoping letters were sent to numerous federal, state, and local agencies, organizations, and individuals soliciting input and comment on the proposed action (see Chapter 10 for the distribution list and Appendix C for the public scoping summary).

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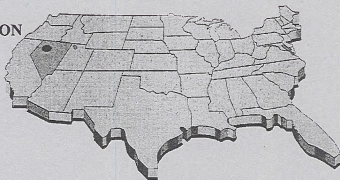
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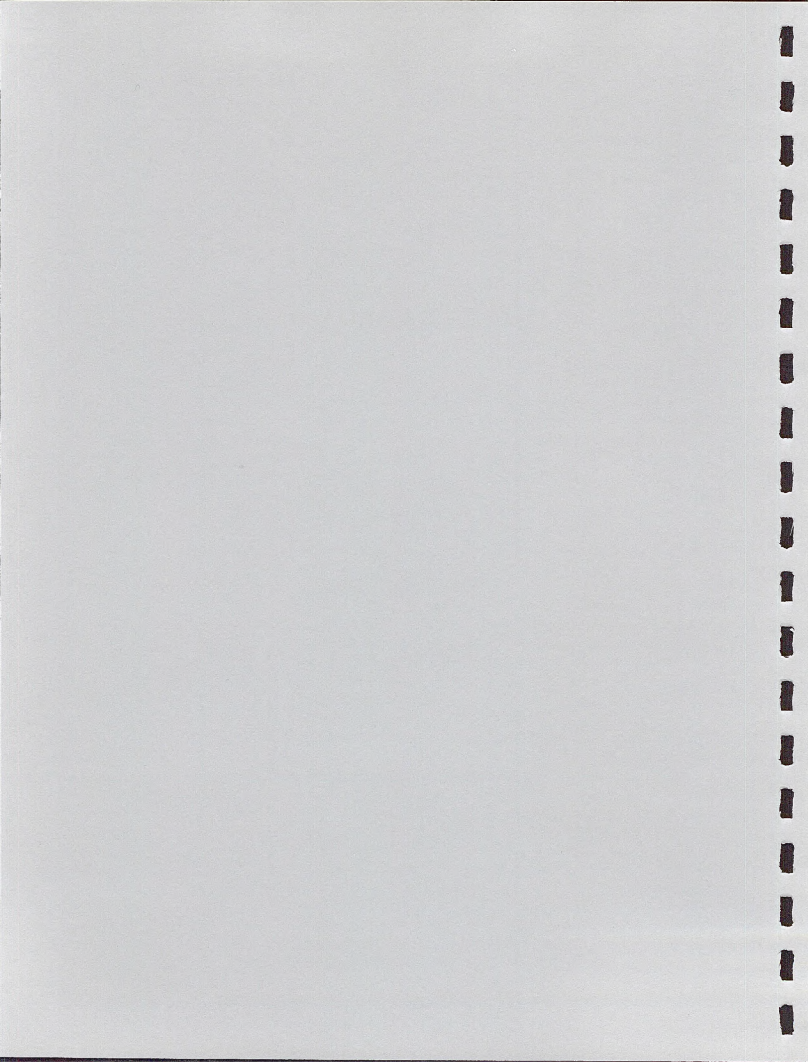
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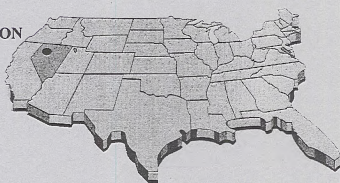
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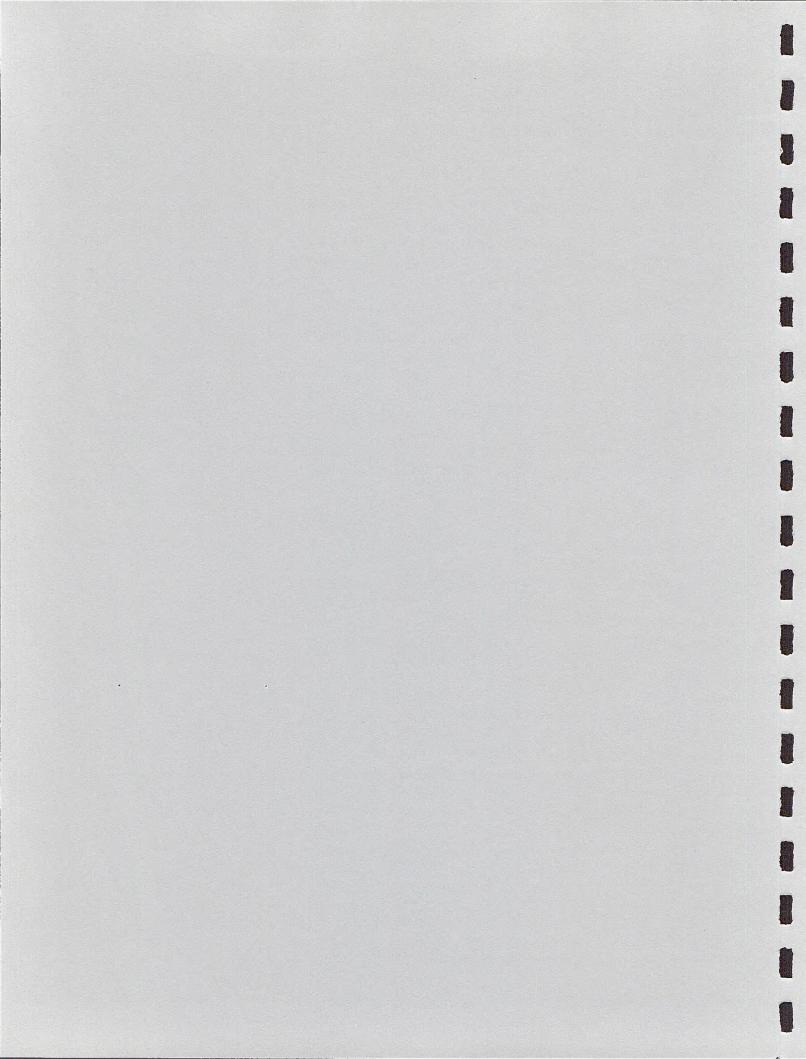
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CHAPTER 9

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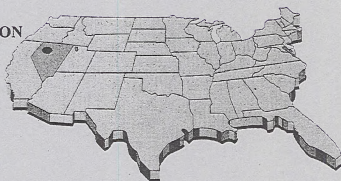
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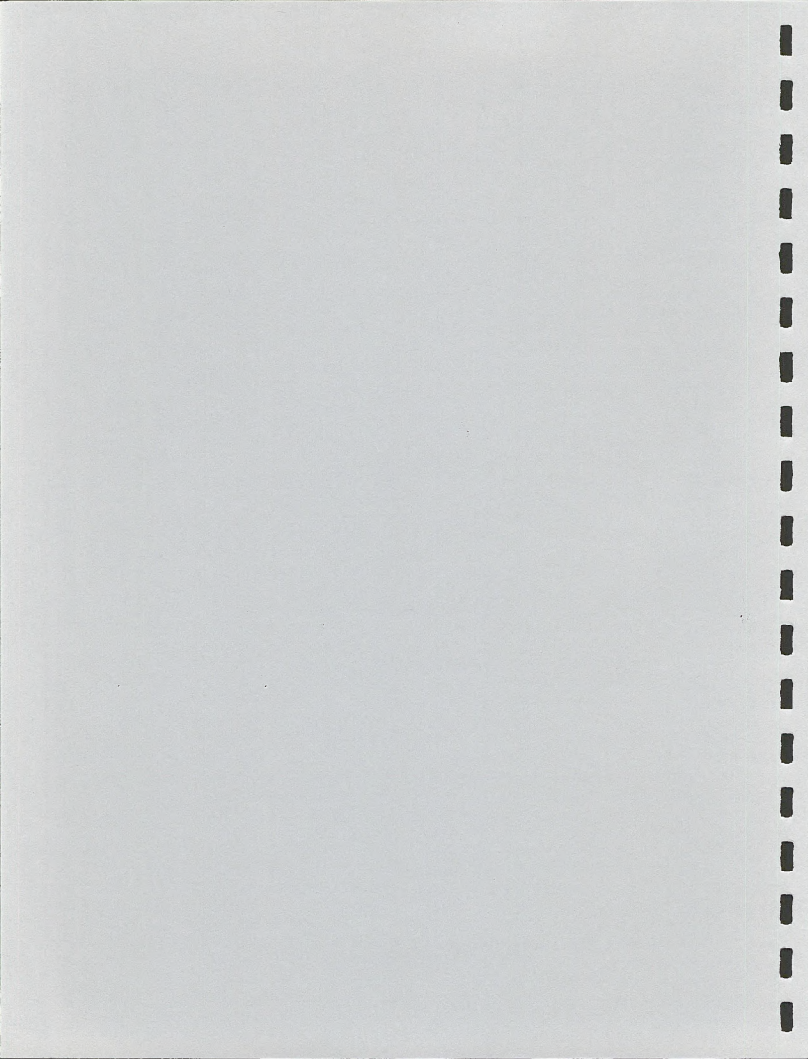
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10.0 DISTRIBUTION LIST



CHAPTER 10

DISTRIBUTION LIST

Scoping letters were mailed to the following elected officials, federal, state, and regional agency representatives, Native American representatives, organizations, and individuals. Entries denoted with an "o" indicate individuals who submitted oral or written scoping comments.

Elected Officials

Hon.	Richard	Bryan	United States Senate
Hon.	John	Ensign	United States House of Representatives
Hon.	Jim	Gibbons	United States House of Representatives
Hon.	Harry	Reid	United States Senate
Hon.	Mike	McGuinness	State of Nevada State Senate
Hon.	Marcia	De Braga	State of Nevada State Assembly
Mr.	Lynn	Pearce	Churchill County Board of Commissioners
Mr.	Jim	Regan	Churchill County Board of Commissioners
Mr.	Pete	Goicoechea	Eureka County Board of Commissioners
Mr.	Pete	Soiseseohea	Eureka County Board of Commissioners
Mr.	Ronald	Schrempp	Humboldt County Board of Commissioners
Ms.	Tammy	Manzini	Lander County Commission
Ms.	Heather	Estes	Lander County Commissioner
Ms.	Kathy	Jensen	Lyon County Commissioner
Mr.	David	Ayoob	Pershing County Board of Supervisors
Mr.	Jerry	McCaffrey	Sierra County Board of Supervisors
Mr.	Hank	Cornu	Fallon City Council
Mr.	Willis	Swan	Fallon City Council
Mr.	John	Tewell	Fallon City Council
Hon.	Ken	Tedford	Mayor of City of Fallon
Mr.	Bob	Kelso	Fernley Town Board

Federal Agencies

Mr.	Chuck	Pope	Bureau of Land Management
Mr.	Brad	Edwards	Bureau of Reclamation
Mr.	Robert	Hunter	Bureau of Indian Affairs
Mr.	David	Loomis	Bureau of Land Management Carson District

Federal Agencies

Mr.	Jerry	Smith	Bureau of Land Management Battle Mountain District
Ms.	Bob	Abbey	Bureau of Land Management State Office
Mr.	James	Phillips	Bureau of Land Management Carson District
Mr.	Dennis	Samuelson	Bureau of Land Management State Office
Mr.	John	Singlaub	Bureau of Land Management Carson District
Mr.	James	Walker	Bureau of Land Management Carson District
Mr.	Brian C.	Amme	Bureau of Land Management NSO
Mr.	Roger	Lesueur	Bureau of Reclamation Fallon Office
Mr.	Edward	Solobos, Jr.	Bureau of Reclamation Lahontan Basin Projects Office
Mr.	David	Farrel	Environmental Protection Agency Office of Federal Activities
Mr.	Arnold	Bosley	Federal Aviation Administration Salt Lake City ARTCC
Mr.	Richard	Lien	Federal Aviation Administration
Mr.		Warner	Federal Aviation Administration Oakland ARTCC
Mr.	Bryan	Fischer	Indian Health Services Office of Environmental Health
Mr.	Rodney	Dahl	Natural Resource Conservation Service
Mr.	Mel	Cheney	Natural Resource Conservation Service
Mr.	Jim	Evans	Natural Resource Conservation Service
Mr.	Craig	Plummer	Natural Resource Conservation Service
LTC	William	Frank	US Air Force FAA Rep AWP 910
			US Department Health/Human Services Reno District
Mr.	Ken	Hewer	US Department Health/Human Services, Regional Health
Mr.	Bill	Bettenberg	US Department of the Interior Office of Policy Analysis
Mr.	Daniel	Walsworth	US Fish and Wildlife Service Stillwater National Wildlife Refuge
* Mr.	Robert D.	Williams	US Fish and Wildlife Service Nevada Ecological Services
Mr.	William	Martin	US Fish and Wildlife Service Region 9
Ms.	Rene	Crompton	US Forest Service Austin District
			US Forest Service Toiyabe National Forest
Mr.	Jim	Mendelson	US Marine Corps FAA Rep AWP-930
Mr.	Bob	Schimmelpeening	US Navy FAA Representative
Mr.	Kenneth	Hoar	US Department of Energy Nevada Operations Office
Mr.	Steve	Alcorn	US Department of the Interior Truckee Carson Coordination Office
Mr.	Jere	Krakow	US Department of the Interior National Park Service
LCDR	Jeff	Borowy	US Navy Facility and Engineering Division (N441c)

State Agencies

	Chris	Hampson	Nevada Department of Wildlife
Mr.	Ed	Foster	Nevada Farm Bureau
Mr.	Doug	Osugi	State of California Department of Water Resources
Ms.	Alice	Baldrice	State of Nevada Department of Museums, Library & Arts
Ms.	Adele	Basham	State of Nevada Division of Environmental Protection
Ms.	Dana	Bennet	State of Nevada Legislative Counsel Bureau

State Agencies

Mr.	Pete	Bradley	State of Nevada Division of Wildlife
Mr.	Ray	Butler	State of Nevada Fish & Wildlife Commission
Mr.	Kent	Cooper	State of Nevada Department of Transportation
Hon.	Darrel	Daines	State of Nevada Controller
Hon.	Marcia	De Braga	State of Nevada State Assembly
Mr.	Mike	Del Grosso	State of Nevada Department of Conservation
Mr.	Bill	Durbin	State of Nevada Department of Agriculture
Mr.	Richard	Elloyan	State of Nevada Division of Health
Mr.	Jeff	Fontaine	State of Nevada Bureau of Health Protection Services
Hon.	Lonnie	Hammargren	State of Nevada Executive Chamber
Mr.	Eugene	Hattori	State of Nevada Department of Museums, Library, Arts, and History
Ms.	Verna	Hauser	State of Nevada Department of Health
Hon.	Dean	Heller	State of Nevada Secretary of Nevada
Mr.	Rob	Holley	State of Nevada Division of Forestry
Mr.	Ron	James	State of Nevada Department of Museums, Library & Arts
Mr.	Paul	Liebendorfer	State of Nevada Division of Environmental Protection
Mr.	Bob	McQuivey	State of Nevada Department of Wildlife
Hon.	Robert	Miller	State of Nevada Executive Chamber
Mr.	William	Molini	State of Nevada Department of Wildlife
Mr.	Peter	Morros	State of Nevada Department of Conservation
Ms.	Maud	Naroll	State of Nevada Clearinghouse
Mr.		Rhoads	State of Nevada Committee On Natural Resources
Mr.	Norm	Saake	State of Nevada Division of Wildlife
Mr.	Bob	Seale	State of Nevada Treasurer's Office
Ms.	Naomi	Smith Duerr	State of Nevada Division of Water Planning
Mr.	Roy	Trenoweth	State of Nevada Division of Forestry
Mr.	Michael	Turnipseed	State of Nevada Division of Water Resources
Mr.	John	Walker	State of Nevada NWPO
Mr.	Steve	Weaver	State of Nevada Division of Parks
Ms.	Pam	Wilcox	State of Nevada Division of State Lands
			State of Nevada Department of Education
			State of Nevada Natural Heritage Program
			State of Nevada Indian Commission
			State of Nevada Department of Business
			State of Nevada Department of Commerce
			State of Nevada Public Service Commission
			State of Nevada Highway Patrol
			State of Nevada Indian Commission

Regional Agencies

Mr.	Rex	Massey	Churchill County
Mr.	Dennis	Hellwinkle	Churchill County Farm Bureau
Ms.	Barbara	Matthews	Churchill County Library
Mr.	Bjorn	Selinder	Churchill County Administration Office
		Superintendent	Churchill County School District
Ms.	Gwen	Washburn	Churchill County Board of Commissioners

Regional Agencies

			Churchill County Building Department
			Churchill County Road Department
			Churchill County Department of Environmental Planning
			Churchill County Maintenance Department
			Churchill County Museum and Archive
			Churchill County Sheriff's Office
			Churchill County Community Hospital
			Churchill County Economic Development Authority
			Churchill County Fire Department
			Churchill Economic Authority
Ms.	Shirley	Walker	Elko County Conservation Association
Mr.	Merlin	McColm	Eureka County Sheriff's Office
Mr.	Kenneth	Jones	Eureka County District Attorney
Mr.	William	Schaeffer	Eureka County Natural Resources Department
Mr.	John	Balliette	Eureka County Planning Commission
Mr.	Ken	Conley	Lander County Manager
Mr.	Timothy	Echeveria	Lander County Advisory Board
Mr.	Joel	Lenz	Lander County Conservation District
Mr.	Jerry	Nuefeld	Lander County Land Planning
	Ray	Salisbury	Lander County PLUAPC
	Soveida	Robinson	Lander County Public Land Use Planning Advisory Commission
Ms.	Hall	Dona	Lander County Road & Bridge
			Mineral County Office of Emergency Management
Mr.	Vernon	Poc	Mineral County Planning Department
Mr.	James	Russ	Pershing County Water Conservation District
Mr.	Ben	Hodges	Pershing County District Attorney's Office
Ms.	Belinda	Quilici	Washoe County Utility District
Mr.	Dan	Dragan	Washoe County Water Conservation District
			Washoe County Board of Commissioners
Mr.	Jay	Brandt	Austin Chamber of Commerce
			Battle Mountain Chamber of Commerce
Mr.	Roger	Heath	Carson City Advisory Board to Management of Wildlife
Mr.	Larry	White	Fallon City Engineer
			Fallon Department of Community Development
Ms.	Rebecca	Harold	Fernley City Attorney
Mr.	Kurt	Kramer	Fernley Town Utilities

Native American

			Battle Mountain Band Council
			Duckwater Shoshone Tribe
Mr.	Alvin	Moyle	Fallon Paiute-Shoshone Tribe
			Lovelock Paiute Tribe
Mr.	Jack	Warnecke	NLUS, Carson Council
		Tribal	Pyramid Lake Paiute Tribe
		Chairman	

Native American

Ms.	Elveda	Martinez	Walker Paiute Tribe
Ms.	Gypsy	Williams	Walker River Paiute Tribe
* Mr.	Thomas	Wasson	WBWS
Ms.	Carrie	Dann	Western Shoshone Defense Project
Mr.	Glen	Wasson	Western Shoshone
			Yomba Shoshone Tribe

Associations and Organizations

Mr.	John	Scherschel	9th Street Chiropractic Center
Mr.	Bob	Baldwin	A.S.C.S.
Mr.	Barry	Delany	Agrifuture, Inc.
Mr.	Phil	Boyer	Aircraft Owners and Pilots Association
Ms.	Lila	Porteous	Alpine Ranch
Mr.	Wendell	Alcorn	Association of Naval Aviators
	R.		
Mr.	Gerald B.	Smith	Association of Naval Aviators Navy League
Mr.	John	English	Association of Naval Aviators
Mr.	Clyde	Porter	Association of Naval Aviators
Mr.	Bob	Barnes	Audubon Society
	Jo	Dean	Audubon Society
Mr.	Ed	Mark	Audubon Society
Mr.	Ken	Pulver	Audubon Society
Ms.	Jill	Shirley	Audubon Society
Ms.	Lynda S.	Nelson	Botanical Resource Consultants
Mr.	John W.	Brown	Brown Engineers
Mr.	Mike	Ahrens	CA Association of Four Wheel Drive Clubs, Inc.
			Cannasback Gun Club
			Canvasback Gun Club
			Carson Valley Chukar Club
			Carson-Truckee Water Conservancy
Mr.	Andre	Aldax	
Mr.	Steve	Walker	Carson-Walker RC&D
Mr.	Steve	Alastuey	Citizens Alert
	Chris	Brown	Citizens Alert
Mr.	Lee	Dazey	Citizens Alert
Mr.	Don	Smith	Citizens For Mining
			Concerned Citizens of Nevada
Mr.	David	Yardas	Environmental Defense Fund, Water Resources
			Farm Bureau
Ms.	Jan	Brown	Freedom Coalition
Mr.	Tom	Myers	Friends of Nevada Wildlife
Mr.	John	Hadder	Great Basin Greens
			Haas & Associates, Wine Glass Ranch
Mr.	Jon	Christensen	High Country News, Great Basin Region
Mr.	Peter	Browning	High Sierra Hikers Association
Mr.	Ed	Warshauer	Int. Union of Electronic Workers AFL-CIO
Mr.	Tom	Callicrate	Kennecott Expl.

Associations and Organizations

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Ms.	Sonya	Johnson	Lahontan 2000
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			Lahontan Valley Environmental Alliance
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Ms.	Nikki	Reynolds	Lahontan Valley Trail Riders
Ms.	Tina	Nappe	Lahontan Wetlands Commission
Mr.	Wayne	Evans	Lander Aviation
			Las Vegas Archers
			Mt. Charleston Volunteer Association
Mr.	Jerry	Lowery	Mule Deer Foundation
Ms.	Bonnie	Ryan	National Pony Express
			National Pony Express Association
			Nevada Bighorns Unlimited
			Nevada Bowhunters Association
Mr.	Chester L.	Hull	Nevada Clubs
	H.L.	Gilchrist	Nevada Freedom Coalition
Ms.	Cathy	Felty	Nevada Indian Environmental Coalition
			Nevada Natural Resources, Education Council
Mr.	Charles	Watson	Nevada Outdoor Recreation Association
			Nevada Outfitters & Guides Association
			Nevada Recycling Coalition
			Nevada Stripper Club
Mr.	Hugh	Judd	Nevada Trappers Association
Mr.	Gene	Gerdes	Nevada Trappers Association
			Nevada Waterfowl Association
			Nevada Waterfowl Association
Mr.	Ed	Wagner	Nevada Wildlife Fed; Northern Nevada
			Nevada Wildlife Federation
Mr.	Ken	Hatch	Newlands Water Protection Association
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Mr.	Jim	Curran	NV Trappers Assoc.
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Ms.	Leta	Collerd	People For the West, Northeast Nevada Chapter
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Mr.	George	Jobe	Reno Council
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Ms.	Grace	Potorti	Rural Alliance For Military Accountability
Ms.	Marjorie	Sill	Sierra Club
Ms.	Rose	Strickland	Sierra Pacific Power Company
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			Silver Springs Airport
Mr.	H. & K.	Bennet	Southern Nevada Off-Road Enthusiast

Associations and Organizations

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Mr.	Ali	Sharoody	Stetson Engineers, Inc.
Ms.	Dawn	Roderique	Tams
			The Mule Deer Foundation
			Trout Unlimited
Mr.	Tom	Crawford	Truckee Carson Coordination Office
Ms.	Jo Ann	Corkill	Truckee Carson Irrigation District
Mr.	Enos	Laca	Truckee Carson Irrigation District
Mr.	Lyman	McConnell	Truckee Carson Irrigation District
Mr.	Larry	Howery	Truckee River Fly Fishers
Mr.	Dennis	Miller	Virginia & Bateman
Ms.	Clare	Mahannah	Water Research & Development, Inc.
Mr.	George	Ball	Watersource Consulting Engineers

Universities

Mr.	Fred	Schmidt	Colorado State University Library
			University of California Berkeley Department of Forestry
Mr.	Eric	Larsen	University of California Davis
Mr.	Richard	Hess	University of Nevada Reno Bureau of Mines and Geology
			University of Nevada Reno Range Wildlife & Forestry Department

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 Battle Mountain Branch Library
 Carson City Library
 Churchill County Library
 Gabbs Community Library
 Round Mountain Public Library
 Washoe County Library, Government Documents

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Mr. Ken Adams	Mr. Alfred R. Cox	Mr. Jim Gallagher
Mr. Leonard Adelman	Mr. James Coyle	Mr. Walter Gambrel
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Mr. Harry L. Brown	Mr. John Edwards	Ms. Lorraine Highsmith
Mr. John Brown	Mr. Brad Edwards Bor	Mr. George Hill
Mr. Wilford Buffington	Ms. Barbara Eldridge	Ms. Lisa Hoehne
Ms. Cora-Joelle Burchett	Ms. Bonnie Elechard	Mr. Thomas Hoey
Ms. Verna Campbell	Jerry & Rebecca Elkins	Ms. Doris M. Holahan
Mr. Mitchell Cantrell	Mr. Rich Ellington	Mr. David Hollecker
Mr. A. Capurro	Mr. Gary Elster	Hubbs/Best
Mr. William Card	Mr. Ed Endecott	Mr. John Huckaby
Ms. Ann Carpenter	Mr. Steve Endecott	Mr. Tom Hudson
Ms. Virginia Carrington	Mr. Bradley Ennen	Mr. James Hughes
Mr. Don Carter	Norvie Enns	Ms. Valaire Hull
Lee & Alberta Carter	Ms. Laurel Etchegaray	B. Hummer
S.N. Casebier	Ms. Putrina Etchegaray	Mr. Dick Hunter
Mr. Ray Chiaratti Sr.	Mr. Leroy Etchegaray	Ms. Mary Hunter
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Mr. Dan Clements	Mr. Darrell Fike	B.R. Jackson
Dennis & Mary Clinton	Ms. Marianne Firebaugh	Mr. R. Damian Janssen
Mr. Earl Cole	Ms. Ona Flowers	Frank & Nancy Job
Mr. Charles H. Coleman	Ms. Carla Forsyth	Ms. Abigail Johnson
Ms. Sally Cook	Mr. Richard E. Franta	J.E. Johnson

Individuals (cont'd)

Mr. Gary Johnson
 Mr. Walter Johnson
 Terry Johnson
 Mr. Daryl D. Jones
 Mr. Ernest Kastenbein
 Joseph & Arliss Keigher
 Mr. Minor Kelso
 Mr. Bruce Kent
 Mr. Ira H. Kent
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 Mr. George Manley
 C. Maples
 Mr. Mike Martin
 Arvilla Mascarenas
 Mr. Dale McCarter
 M.L. McCarty
 Mr. Tim McFarrow
 Mr. Lewis McKay
 B. Jack McMillen
 Mr. Michael Meinert
 Mr. Zane Stanley Miles
 Mr. Arthur Miles
 Mr. Jeff Miller
 Ms. Marilyn Miller
 Mr. Roger Mills
 Mr. Hollon Moll
 Mr. Dennis Mondhink
 Mr. Jim Morrison

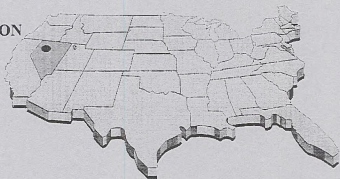
Mr. Tom Morrissey
 Mr. Bill Moyer
 Ms. Kimberly Moyer
 Steve & Ernestine Mueller
 Mr. Lewis Munger
 Ms. Yvonne L. Newsam
 Mr. Kevin Nicholes
 Mr. Allyn Niles
 Mr. Gary Olander
 Mr. Dan Orozco
 Mr. Mike Owens
 Ms. Kim Packard
 Ms. Angel Parker
 Mr. Charles V. Parsons
 Ms. Susan Paslou
 Mr. Robert Pelycyer
 Mr. Carl Peterson
 Mr. John Peterson
 Mr. Robert R. Phillips
 Ms. Della Pierce
 CT Pierson
 Robert & Sherrill Pierson
 Mr. Larry Pizorno
 Glenn & Jerri Potts
 Mr. Mike Protani
 Ms. Norma Ranson
 Mr. Floyd Rathbun
 Mr. Dennis Rechel
 Mr. Harry Rehkop
 Mr. Darryl E. Reeves
 Sherman & Mary Richardson
 Mr. Roy Risi
 Mr. William W. Rixey, Sr.
 Ms. Marian Robbins
 Ms. Della Robbins
 Mr. Tom Robinson
 Waymen and Judy Rosenlund
 Ms. Beverly Ross
 Mr. Russell W. Rowley
 *Ms. Kathy Rusco
 Mr. Roger E. Ryan
 Mr. Richard Sagram
 Lilly & Joe Sanchez
 Ms. Nancy Sanders
 Mr. Tim Sanders
 Mr. Chuck Sanicola
 Mr. Jay Sants
 Mr. Charles Saulisberry
 Mr. Harold Schmelz
 Ms. Judith Schmidt

*Jim and Alice Schneider
 Mr. Greg Scott
 Ms. Michelle Selman
 Mr. Pete Sfarazza
 Mr. Jeffrey Shellberg
 Ms. Marie Sherman
 Ms. Lisa Shultz
 Mr. Joe Sicking
 C. Sides
 Ms. Florence Signalness
 Terry Simmons
 W. Skidwell
 Mr. Carl Slagowski
 Pat Smith
 Ms. Christine Smith
 Ms. Melissa Smith
 Ms. Lory Smither
 Smokey Valley Joe
 Ms. Kelley L. Smouse
 R.W. Smucker
 Mr. Art Sommer
 Frances Spikes
 Mr. Ralph Spires
 Ms. Doree Starr
 Will & Pat Stephens
 Mr. William E. Stephens
 Ms. Susan, Amanda, and Krysta Stevenson
 Ms. Karen Stephenson
 Russ & Fredda Stevenson
 John and Ruth Strmiska
 Mr. Elliott Sutton
 Mr. Skip Talbot
 Mr. Don Ten Eyck
 Ms. Marianne H. Theler
 Mr. Bryce Thiekin
 Ms. Rose Thomas
 Mr. Ed Tilzey
 Mr. Jerry Todd
 Dale Towell
 Ms. Kim Townsend
 H.W. Trapwell
 Ms. Betty Tregero
 Mr. Tomas Tuerino
 Clark & Charlene Valceschini
 Ms. Carolyn Valentine
 Geri Van Riper
 Mr. Leo Varh
 Mr. Steward Wakefield
 Mr. Charles Walker

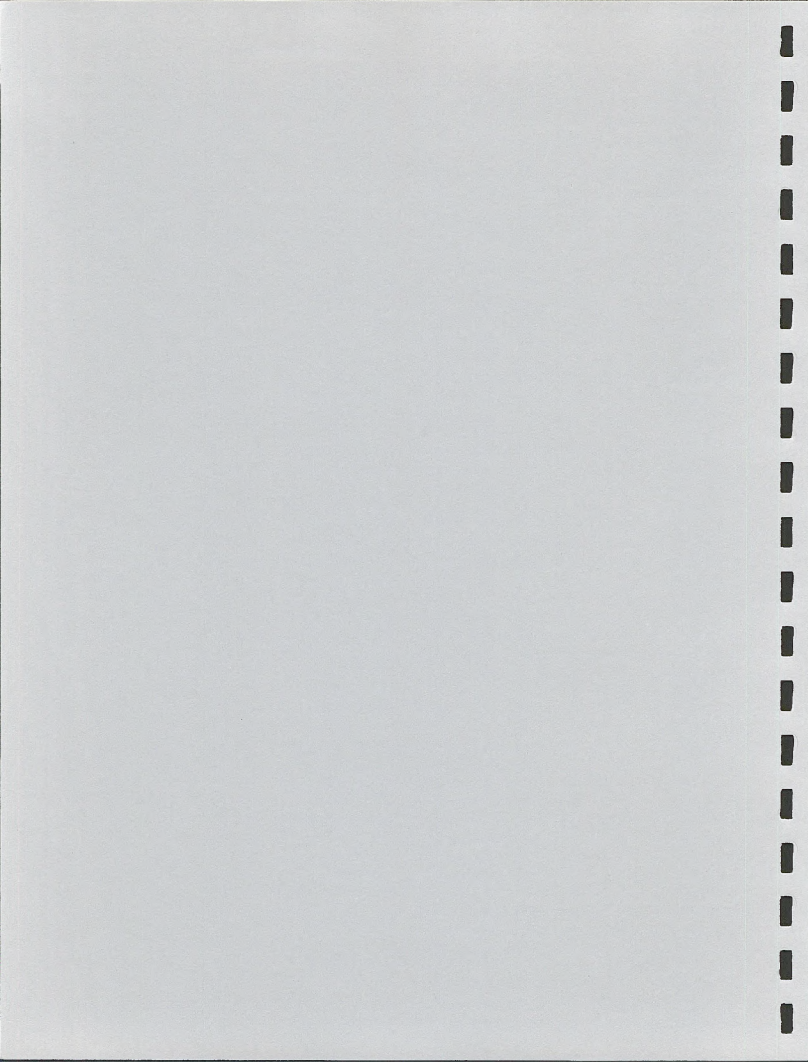
Individuals (cont'd)

Mr. Dan Walsworth
Mr. Jack Ward
Mr. Steve Wathen
Ms. Deborah Watts
Ms. Lura Weaver
Mr. Len Wight
Frances Wilde
Orie L. Wiles
Mr. Aaron Williams
Robert & Alyce Williams
Mr. Vic Williams
Mr. Ray H. Williams, Jr
Mr. Kurt Wilson
Mr. Jay Winrod
Mr. Les Winterling
Mr. Dennis Wiseman
Mr. Ed Wishart
Mr. Scott Wolf
Mr. David Wood
Ms. Diane Woods
Ms. Mary Lu Woods
Mr. Mike Yates
S. Zumwalt

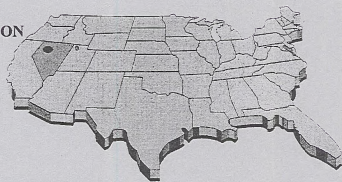
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APPENDICES

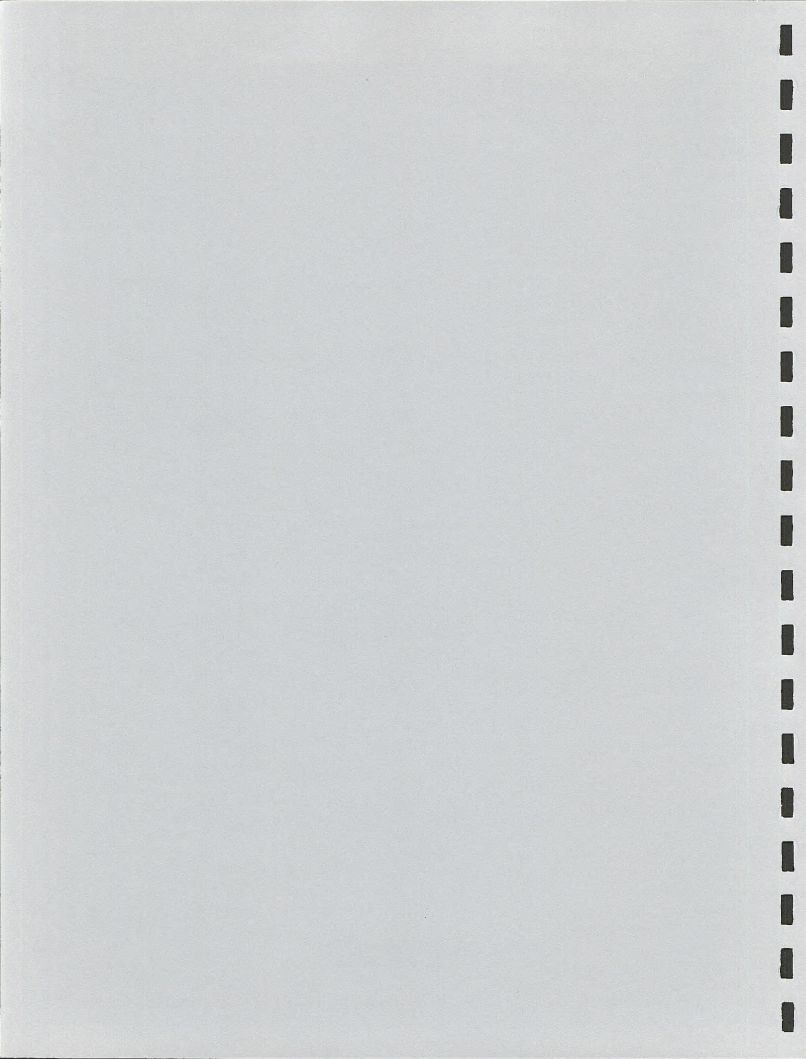


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APPENDIX A

PUBLIC LAW 99-606



APPENDIX A
PUBLIC LAW 99-606

The Military Lands Withdrawal Act of 1986, also known as Public Law 99-606, withdrew lands for military use in Nevada, New Mexico, Arizona, and Alaska. Under this legislation, the Navy withdrew approximately 21,576 acres of land in a checkerboard pattern for Navy use in Churchill County, Nevada, to support NAS Fallon's B-20 training range. PL 99-606 withdrew no other NAS Fallon-administered lands.

PL 99-606 includes a description of the public land withdrawals (Section 1), maps and legal descriptions (Section 2), provisions for management of the withdrawn lands (Section 3), special wildlife rules (Section 4), duration of the withdrawals (Section 5), development of the Special Nevada Report (Section 6), programs for ongoing decontamination (Section 7), and requirements for renewal (Section 9). The law also included sections pertaining to water rights, hunting, fishing, and trapping, and mining and mineral leasing.

The sections of PL 99-606 that pertain specifically to NAS Fallon and preparation of this LEIS include Section 1(a), Sections 5(a) and (b), and Section 8.

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Public Law 99-606

WITHDRAWALS OF PUBLIC LANDS FOR MILITARY PURPOSES

An Act to withdraw certain public lands for military purposes and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. WITHDRAWAL

(a) BRAVO-20 BOMBING RANGE – (1) Subject to valid existing rights and except as otherwise provided in this Act, the lands referred to in paragraph (2) of this subsection, and all other areas within the boundary of such lands as depicted on the map specified in such paragraph which may become subject to the operation of the public land laws, are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws). Such lands are reserved for use by the Secretary of the Navy for –

(A) testing and training for aerial bombing, missile firing, and tactical maneuvering and air support; and
(B) subject to the requirements of section 3(f), other defense related purposes consistent with the purposes specified in this paragraph

(2) The lands referred to in paragraph (1) of this subsection are the public lands comprising approximately 21,576.40 acres in Churchill County, Nevada, as generally depicted on the map entitled "Bravo 20 Bombing Range Withdrawal Proposed", dated April 1986, and filed in accordance with section 2.

(3) This section does not affect the withdrawals of July 2, 1902, August 26, 1902, and August 4, 1904, under which the Bureau of Reclamation utilizes for flooding, overflow, and seepage purposes approximately 14,750 acres of the lands withdrawn and reserved by this subsection.

(b) Nellis Air Force Range — (1) Subject to valid existing rights and except as otherwise provided in this Act, the public lands described in paragraph (2) of this subsection are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws). Such lands are reserved for use by the Secretary of the Air Force

(A) as an armament and high-hazard testing area;

(B) for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; and
(C) subject to the requirements of section 3(f), for other defense related purposes consistent with the purposes specified in this paragraph.

(2) The lands referred to in paragraph (1) of this subsection are the lands comprising approximately 2,945,000 acres of land in Clark, Nye, and Lincoln Counties, Nevada, as generally depicted on the map entitled "Nellis Air Force Range Withdrawal Proposed" dated January 1985, and filed in accordance with section 2.

(c) BARRY M. GOLDWATER AIR FORCE RANGE—(1) Subject to valid existing rights and except as otherwise provided in this Act, the lands described in paragraph (2) of this subsection are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws). Such lands are reserved for use by the Secretary of the Air Force for

(A) an armament and high-hazard testing area;

(B) training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; and
(C) subject to the requirements of section 3(D), other defense related purposes consistent with the purposes specified in this paragraph.

(2) The lands referred to in paragraph (1) of this subsection are the lands comprising approximately 2,664,423 acres in Maricopa, Pima, and Yuma Counties, Arizona, as generally depicted on the map entitled "Luke Air Force Range Withdrawal Proposed", dated January 1985, and filed in accordance with section 2.

(d) McGregor Range — (1) Subject to valid existing rights and except as otherwise provided in this Act, the public lands described in paragraph (2) of this subsection are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws). Such lands are reserved for use by the Secretary of the Army—

(A) for training and weapons testing; and

(B) subject to the requirements of section 3(f), for other defense related purposes consistent with the purposes specified in this paragraph.

(2) The lands referred to in paragraph (1) of this subsection are the lands comprising approximately 608,384.87 acres in Otero County, New Mexico, as generally depicted on the map entitled "McGregor Range Withdrawal Proposed", dated January 1985, and filed in accordance with section 2.

(3) Any of the public lands withdrawn under paragraph (1) of this subsection which, as of the date of enactment of this Act, are managed pursuant to section 603 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782) shall continue to be managed under that section until Congress determines otherwise.

(e) FORT GREELY MANEUVER AREA AND FORT GREELY AIR DROP ZONE—(1) Subject to valid existing rights and except as otherwise provided in this Act, the lands described in paragraph (2) of this subsection are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws), under an Act entitled "An Act to provide for the admission of the State of Alaska into the Union", approved July 7, 1958 (48 U.S.C. note prec. 21), and under the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.). Such lands are reserved for use by the Secretary of the Army for:

(A) military maneuvering, training, and equipment development and testing; and

(B) subject to the requirements of section 3(f), other defense related purposes consistent with the purposes specified in this paragraph.

(2) The lands referred to in paragraph (1) of this subsection are

(A) the lands comprising approximately 571,995 acres in the Big Delta Area, Alaska, as generally depicted on the map entitled "Fort Greely Maneuver Area Withdrawal Proposed", dated January 1985, and filed in accordance with section 2; and

(B) the lands comprising approximately 51,590 acres in the Granite Creek Area, Alaska, as generally depicted on the map entitled "Fort Greely, Air Drop Zone Withdrawal Proposed, dated January 1985, and filed in accordance with section 2.

(f) FORT WAINWRIGHT MANEUVER AREA. (1) Subject to valid existing rights and except as otherwise provided in this Act, the public lands described in paragraph (2) of this subsection are hereby withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and the geothermal leasing laws), under an Act entitled "An Act to provide for the admission of the State of Alaska into the Union", approved July 7, 1958 (48 U.S.C. note prec. 21), and under the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.). Such lands are reserved for use by the Secretary of the Army for:

(A) military maneuvering;

(B) training for artillery firing, aerial gunnery, and infantry tactics; and

(C) subject to the requirements of section 3(f), other defense related purposes consistent with the purposes specified in this paragraph.

(2) The lands referred to in paragraph (1) of this subsection are the lands comprising approximately 247,951.67 acres of land in the Fourth Judicial District, Alaska, as generally depicted on the map entitled "Fort Wainwright Maneuver Area Withdrawal Proposed, dated January 1985, and filed in accordance with section 2.

SEC 2. MAPS AND LEGAL DESCRIPTIONS.

(a) PUBLICATIONS AND FILING REQUIREMENTS. As soon as practicable after the date of enactment of this Act, the Secretary of the Interior shall—

(1) publish in the Federal Register a notice containing the legal description of the lands withdrawn and reserved by this Act; and

(2) file maps and the legal description of the lands withdrawn and reserved by this Act with the Committee on Energy and Natural Resources of the United States Senate and with the Committee on Interior and Insular Affairs of the United States House of Representatives.

(b) TECHNICAL CORRECTIONS. Such maps and legal descriptions shall have the same force and effect as if they were included in this Act except that the Secretary of the Interior may correct clerical and typographical errors in such maps and legal descriptions.

(c) AVAILABILITY FOR PUBLIC INSPECTIONS.-- Copies of such maps and legal descriptions shall be available for public inspection in the offices of the Director and appropriate State Directors of the Bureau of Land Management; the office of the commander, Bravo 20 Bombing Range; the offices of the Director and appropriate Regional Directors of the United States Fish and Wildlife Service; the office of the commander, Nellis Air Force Base; the office of the commander, Barry M. Goldwater Air Force Base; the office of the commander, McGregor Range; the office of the installation commander, Fort Richardson, Alaska; the office of the commander, Marine Corps Air Station, Yuma, Arizona; and the office of the Secretary of Defense.

(d) REIMBURSEMENT.-- The Secretary of Defense shall reimburse the Secretary of the Interior for the costs of implementing this section.

SEC 3. MANAGEMENT OF WITHDRAWN LANDS.

(a) MANAGEMENT BY THE SECRETARY OF THE INTERIOR.--(1) During the period of the withdrawal, the Secretary of the Interior shall manage the lands withdrawn under section 1 (except those lands within a unit of the National Wildlife Refuge System) pursuant to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and other applicable law, including the Recreation Use of Wildlife Act of 1962 (16 U.S.C. 460k et seq.), and this Act. Lands within the Desert National Wildlife Range and the Cabeza Prieta National Wildlife Refuge shall be managed pursuant to the National Wildlife Refuge System Administration Act of 1966

(16 U.S.C. 668dd et seq.) and other applicable law. No provision of this Act, except sections 4, 11, and 12, shall apply to the management of the Desert National Wildlife Range or the Cabeza Prieta National Wildlife Refuge.

(2) To the extent consistent with applicable law and Executive orders, the lands withdrawn under section 1 may be managed in a manner permitting:

(A) the continuation of grazing pursuant to applicable law and Executive orders where permitted on the date of enactment of this Act;

(B) protection of wildlife and wildlife habitat;

(C) control of predatory and other animals;

(D) recreation; and

(E) the prevention and appropriate suppression of brush and range fires resulting from nonmilitary activities.

(3)(A) All nonmilitary use of such lands, other than the uses described in paragraph (2), shall be subject to such conditions and restrictions as may be necessary to permit the military use of such lands for the purposes specified in or authorized pursuant to this Act.

(B) The Secretary of the Interior may issue any lease, easement, right-of-way, or other authorization with respect to the nonmilitary use of such land only with the concurrence of the Secretary of the military department concerned.

(b) CLOSURE TO PUBLIC.--(1) If the Secretary of the military department concerned determines that military operations, public safety, or national security require the closure to public use of any road, trail, or other portion of the lands withdrawn by this Act, the Secretary may take such action as the Secretary determines necessary or desirable to effect and maintain such closure.

(2) Any such closure shall be limited to the minimum areas and periods which the Secretary of the military department concerned determines are required to carry out this subsection.

(3) Before and during any closure under this subsection, the Secretary of the military department concerned shall

(A) Keep appropriate warning notice posted; and

(B) take appropriate steps to notify the public concerning such closures.

(c) MANAGEMENT PLAN.--The Secretary of the Interior (after consultation with the Secretary of the military departments concerned) shall develop a plan for the management of each area withdrawn under section 1 during the period of such withdrawal. Each plan shall--

(1) be consistent with applicable law;

(2) be subject to conditions and restrictions specified in subsection (a)(3) of this section;

(3) include such provisions as may be necessary for proper management and protection of the resources and values of such areas; and

(4) be developed not later than three years after the date of enactment of this Act.

(d) BRUSH AND RANGE FIRES.-- The Secretary of the military department concerned shall take necessary precautions to prevent and suppress brush and range fires occurring within and outside the lands withdrawn under section 1 as a result of military activities and may seek assistance from the Bureau of Land Management in the suppression of such fires. The memorandum of understanding required by subsection (e) shall provide for Bureau of Land Management assistance in the suppression of such fires, and for a transfer of funds from the Department of the Navy, Army, or Air Force, as appropriate, to the Bureau of Land Management as compensation for such assistance.

(e) MEMORANDUM OF UNDERSTANDING.--(1) The Secretary of the Interior and the Secretary of the military department concerned shall (with respect to each land withdrawal under section 1) enter into a memorandum of understanding to implement the management plan developed under subsection (c). Any such memorandum of understanding shall provide that the Director of the Bureau of Land Management shall provide assistance in the suppression of fires resulting from the military use of lands withdrawn under section 1 if requested by the Secretary of the military department concerned.

(2) The duration of any such memorandum shall be the same as the period of the withdrawal of the lands under section 1.

(f) ADDITIONAL MILITARY USES.--(1) Lands withdrawn by section 1 (except those within the Desert National Wildlife Range or within the Cabeza Prieta National Wildlife Refuge) may be used for defense related uses other than those specified in such section. The Secretary of Defense shall promptly notify the Secretary of the Interior in the event that the lands withdrawn by this Act will be used for defense-related purposes other

than those specified in section 1. Such notification shall indicate the additional use or uses involved, the proposed duration of such uses, and the extent to which such additional military uses of the withdrawn lands will require that additional or more stringent conditions or restrictions be imposed on otherwise-permitted nonmilitary uses of the withdrawn lands or portions thereof.

SEC 4. SPECIAL WILDLIFE RULES.

(a) NELLIS AIR FORCE RANGE.--(1) Neither the withdrawal under section 1(b) nor any other provision of this Act shall be construed to amend--

(A) the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.) or any other law related to management of the National Wildlife Refuge System; or

(B) any Executive order or public land order in effect on the date of enactment of this Act with respect to the Desert National Wildlife Refuge.

(2) Neither the withdrawal under section 1(b) nor any other portion of this Act shall be construed to amend any memorandum of understanding between the Secretary of the Interior and the Secretary of the Air Force regarding the administration and joint use of a portion of the Desert National Wildlife Range. The provisions of the memorandum of understanding between the Secretary of the Interior and the Department of the Air Force regarding Air Force operations on the Desert National Wildlife Range in effect on March 15, 1986, shall not be amended sooner than 90 days after the Secretary of the Interior has notified the Committee on Interior and Insular Affairs of the House of Representatives, the Committee on Energy and Natural Resources of the Senate, the Committees on Armed Services of the Senate and the House of Representatives, the Committee on Merchant Marine and Fisheries of the House of Representatives, and the Committee on Environment and Public Works of the Senate of any proposed amendments to such provisions

(b) BARRY M. GOLDWATER AIR FORCE RANGE.--(1) Neither the withdrawal under section 1(c) nor any other provision of this Act shall be construed to amend--

(A) the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.) or any other law relates to management of the National Wildlife Refuge System; or

(B) any Executive order or public land order in effect on the date of enactment of this Act with respect to the Cabeza Prieta National Wildlife Refuge.

(2) Neither the withdrawal under section 1(c) nor any other provision of the Act shall be construed to amend any memorandum of understanding between the Secretary of the Interior and the Secretary of the Air Force regarding the administration and joint use of a portion of the Cabeza Prieta National Wildlife Refuge. The provisions of the memorandum of understanding between the Secretary of the Interior and the Department of the Air Force regarding Air Force operations on the Cabeza Prieta National Wildlife Refuge in effect on March 24, 1975, shall not be amended sooner than 90 days after the Secretary of the Interior has notified the Committee on Interior and Insular Affairs of the House of Representatives, the Committee on Energy and Natural Resources of the Senate, the Committees on Armed Services of the Senate and the House of Representatives, the Committee on Merchant Marine and Fisheries of the House of Representatives, and the Committee on Environment and Public Works of the Senate of any proposed amendments to such provisions.

SEC 5. DURATION OF WITHDRAWALS.

(a) DURATIONS.--The withdrawal and reservation established by this Act shall terminate 15 years after the date of enactment of this Act.

(b) DRAFT ENVIRONMENTAL IMPACT STATEMENT.--(1) No later than 12 years after the date of enactment of this Act, the Secretary of the military department concerned shall publish a draft environmental impact statement concerning continued or renewed withdrawal of any portion of the lands withdrawn by this Act for which that Secretary intends to seek such continued or renewed withdrawal. Such draft environmental impact statement shall be consistent with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) applicable to such a draft environmental impact statement. Prior to the termination date specified in subsection

(a), the Secretary of the military department concerned shall hold a public hearing on any draft environmental impact statement published pursuant to this subsection. Such hearing shall be held in the affected State or States

in order to receive public comments on the alternatives and other matters included in such draft environmental impact statement.

(2)(A) For purposes of such draft environmental impact statement published by the Secretary of the Navy, the term "lands withdrawn by this Act" shall be deemed to include lands withdrawn by public land orders 275, 788, 898, and 2635 and lands proposed for withdrawal as specified in the draft environmental impact statement for the proposed master land withdrawal, Naval Air Station, Fallon, Nevada.

(B) For purposes of this subsection, lands withdrawn by section 1(b) shall be deemed to include lands withdrawn by Public Law 98-485.

(c) EXTENSIONS OR RENEWALS. The withdrawals established by this Act may not be extended or renewed except by an Act or joint resolution.

SEC 6. NEVADA REPORT.

(a) SPECIAL NEVADA REPORT.—No later than five years after the date of enactment of this Act, the Secretary of the Air Force, the Secretary of the Navy, and the Secretary of the Interior shall submit to Congress a joint report. In addition to the other matters required by this section, the report shall include an analysis and an evaluation of the effects on public health and safety throughout Nevada of—

(1) the operation of aircraft at subsonic and supersonic speeds;

(2) the use of aerial and other gunnery, rockets, and missiles; and

(3) the uses specified in section 1.

(b) EVALUATION OF CUMULATIVE EFFECT ON CONTINUED OR RENEWED WITHDRAWAL.—Each of the military departments concerned and the Secretary of the Interior shall, in the report required by this section, evaluate the cumulative effects of continued or renewed withdrawal for military purposes of the military department concerned of some or all of the lands withdrawn by sections 1(a) and 1(b) on the environment and population of Nevada. In performing this evaluation, there shall be considered.

(1) the actual and proposed withdrawal for military and related purposes of other lands in Nevada, including (but not limited to)

(A) lands withdrawn by sections 1(a) and 1(b) of this Act and by Public Law 98-485 (98 Stat. 2261);

(B) lands withdrawn by Public Land Orders 275, 788, 898, and 2635;

(C) lands proposed for withdrawal as specified in the draft environmental impact statement for the proposed master land withdrawal, Naval Air Station, Fallon, Nevada; and

(D) lands withdrawn or being considered for withdrawal for use by the Department of Energy; and

(2) the cumulative impacts on public and private property in Nevada and on the fish and wildlife, cultural, historic, scientific, recreational, wilderness, and other values of the public lands of Nevada resulting from military and defense related uses of the lands withdrawn by sections 1(a) and 1(b) and the other land described in paragraph (1) of this subsection.

(c) MITIGATION MEASURES.—The report required by this subsection shall include an analysis and an evaluation of possible measures to mitigate the cumulative effect of the withdrawal of public lands in Nevada for military and defense related purposes, and of use of the airspace over public lands in Nevada for such purposes, on people and property in Nevada and the fish and wildlife, cultural, historic, scientific, wilderness, and other resources and values of the public lands in Nevada (including recreation, mineral development, and agriculture).

SEC 7. ONGOING DECONTAMINATION

(a) PROGRAM.—Throughout the duration of the withdrawals made by this Act, the Secretary of the military department concerned, to the extent funds are made available, shall maintain a program of decontamination of land withdrawn by this Act at least at the level of cleanup achieved on such lands in fiscal year 1986.

(b) REPORTS. At the same time as the President transmits to the Congress the President's proposed budget for the first fiscal year beginning after the date of enactment of this Act and for each subsequent fiscal year, each such Secretary shall transmit to the Committees on Appropriations, Armed Services, and Energy and Natural Resources of the Senate and to the Committees on Appropriations, Armed Services, and Interior and Insular Affairs of the House of Representatives a description of the decontamination efforts undertaken during the previous fiscal year on such lands and the decontamination activities proposed for such lands during the next fiscal year including:

- (1) amounts appropriated and obligated or expended for decontamination of such lands;
- (2) the methods used to decontaminate such lands;
- (3) amount and types of contaminants removed from such lands; (4) estimated types and amounts of residual contamination on such lands; and
- (5) an estimate of the costs for full decontamination of such lands and the estimated of the time to complete such decontamination.

SEC 8. REQUIREMENTS FOR RENEWAL

(a) Notice and Filing.--(1) No later than three years prior to the termination of the withdrawal and reservation established by this Act, the Secretary of the military department concerned shall advise the Secretary of the Interior as to whether or not the Secretary of the military department concerned will have a continuing military need for any of the lands withdrawn under section 1 after the termination date of such withdrawal and reservation.

(2) If the Secretary of the military department concerned concludes that there will be a continuing military need for any of such lands after the termination date, that Secretary shall file an application for extension of the withdrawal and reservation of such needed lands in accordance with the regulations and procedures of the Department of the Interior applicable to the extension of withdrawal of lands for military use.

(3) If, during the period of withdrawal and reservation, the Secretary of the military department concerned decides to relinquish all or any of the lands withdrawn and reserved by this Act, such Secretary shall file a notice of intention to relinquish with the Secretary of the Interior.

(b) CONTAMINATION.--(1) Before transmitting a notice of intention to relinquish pursuant to subsection (a), the Secretary of Defense, acting through the military department concerned, shall prepare a written determination concerning whether and to what extent the lands that are to be relinquished are contaminated with explosive, toxic, or other hazardous materials.

(2) A copy of such determination shall be transmitted with the notice of intention to relinquish.

(3) Copies of both the notice of intention to relinquish and the determination concerning the contaminated state of the lands shall be published in the Federal Register by the Secretary of the Interior.

(c) DECONTAMINATION.-- If any land which is the subject of a notice of intention to relinquish pursuant to subsection (a) is contaminated, and the Secretary of the Interior, in consultation with the Secretary of the military department concerned, determines that decontamination is practicable and economically feasible (taking into consideration the potential future use and value of the land) and that upon decontamination the land could be opened to operation of some or all of the public land laws, including the mining laws, the Secretary of the military department concerned shall decontaminate the land to the extent that funds are appropriated for such purpose.

(d) ALTERNATIVES.-- The Secretary of the Interior, after consultation with the Secretary of the military Department concerned, concludes that decontamination of any land which is the subject of a notice of intention to relinquish pursuant to subsection (a) is not practicable or economically feasible, or that the land cannot be decontaminated sufficiently to be opened to operation of some or all of the public land laws, or if Congress does not appropriate a sufficient amount of funds for the decontamination of such land, the Secretary of the Interior shall not be required to accept the proposed land for relinquishment.

(e) STATUS OF CONTAMINATED LANDS.-- If, because of their contaminated state, the Secretary of the Interior declines to accept jurisdiction over lands withdrawn by this Act which have been proposed for relinquishment, or if at the expiration of the withdrawal made by this Act the Secretary of the Interior determines that some of the lands withdrawn by this Act are contaminated to an extent which prevents opening such contaminated lands to operation of the public and laws

(1) the Secretary of the military department concerned shall take appropriate steps to warn the public of the contaminated state of such lands and any risks associated with entry onto such lands;

(2) after the expiration of the withdrawal, the Secretary of the military department concerned shall undertake no activities on such lands except in connection with decontamination of such lands; and

(3) the Secretary of the military department concerned shall report to the Secretary of the Interior and to the Congress concerning the status of such lands and all action taken in furtherance of this subsection.

REVOCATION AUTHORITY.--Notwithstanding any other provision of law, the Secretary of the Interior, upon deciding that it is in the public interest to accept jurisdiction over lands proposed for relinquishment pursuant to section (a), is authorized to revoke the withdrawal and reservation established by this Act as it applies to such lands. Should the decision be made to revoke the withdrawal and reservation, the Secretary of the Interior shall publish in the Federal Register an appropriate order which shall--

- (1) terminate the withdrawal and reservation;
- (2) constitute official acceptance of full jurisdiction over the lands by the Secretary of the Interior; and
- (3) state the date upon which the lands will be opened to the operation of some or all of the public lands laws, including the mining laws.

SEC 9. DELEGABILITY.

(a) DEFENSE.-- The functions of the Secretary of Defense or of a military department under this title may be delegated.

(b) INTERIOR.-- The functions of the Secretary of the Interior under this title may be delegated, except that an order described in section 7(f) may be approved and signed only by the Secretary of the Interior, the Under Secretary of the Interior, or an Assistant Secretary of the Department of the Interior.

SEC 10. WATER RIGHTS.

Nothing in this Act shall be construed to establish a reservation to the United States with respect to any water or water right on the lands described in section 1 of this Act. No provision of this Act shall be construed as authorizing the appropriation of water on lands described in section 1 of this Act by the United States after the date of enactment of this Act except in accordance with the law of the relevant State in which lands described in section 1 are located. This section shall not be construed to affect water rights acquired by the United States before the date of enactment of this Act.

SEC 11. HUNTING, FISHING AND TRAPPING.

All hunting, fishing, and trapping on the lands withdrawn by this Act shall be conducted in accordance with the provisions of section 2671 of title 10, United States Code, except that hunting, fishing, and trapping within the Desert National Wildlife Range and the Cabeza Prieta National Wildlife Refuge shall be conducted in accordance with the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.), the Recreation Use of Wildlife Areas Act of 1962 (16 U.S.C. 460k et seq.), and other laws applicable to the National Wildlife Refuge System.

SEC 12. MINING AND MINERAL LEASING..

(a) DETERMINATION OF LANDS SUITABLE FOR OPENING.-- As soon as possible after the enactment of this Act and at least every five years thereafter, the Secretary of the Interior shall determine, with the concurrence of the Secretary of the military department concerned, which public and acquired lands (except as provided in this subsection) described in subsections (a), (b), (d), (e), and (f) of section 1 of this Act the Secretary of the Interior considers suitable for opening to the operation of the Mining Law of 1872, the Mineral Lands Leasing Act of 1920, as amended, the Mineral Leasing Act for Acquired Lands of 1947, the Geothermal Steam Act of 1970, or any one or more of such Acts. The Secretary of the Interior shall publish a notice in the Federal Register listing the lands determined suitable pursuant to this section and specifying the opening date except that lands contained within the Desert National Wildlife Range in Nevada or within the Cabeza Prieta National Wildlife Refuge in Arizona shall not be determined to be suitable for opening pursuant to this section.

(b) OPENING LANDS.-- On the day specified by the Secretary of the Interior in a notice published in the Federal Register pursuant to subsection (a), the land identified under subsection (a) as suitable for opening to the operation of one or more of the laws specified in subsection (a) shall automatically be open to the operation of such laws without the necessity for further action by either the Secretary or the Congress.

(c) EXCEPTION FOR COMMON VARIETIES.-- No deposit of minerals or materials of the types identified by section 3 of the Act of July 23, 1955 (69 Stat. 367), whether or not included in the term "common varieties" in that Act, shall be subject to location under the Mining Law of 1872 on lands described in section 1.

(d) **REGULATIONS.**— The Secretary of the Interior, with the advice and concurrence of the Secretary of the military department concerned shall promulgate such regulations to implement this section as may be necessary to assure safe, uninterrupted, and unimpeded use of the lands described in section 1 for military purposes. Such regulations shall also contain guidelines to assist mining claimants in determining how much, if any, of the surface of any lands opened pursuant to this section may be used for purposes incident to mining.

(e) **CLOSURE OF MINING LANDS.**— In the event of a national emergency or for purposes of national defense or security, the Secretary of the Interior, at the request of the Secretary of the military department concerned, shall close any lands that have been opened to mining or to mineral or geothermal leasing pursuant to this section.

(f) **LAWS GOVERNING MINING ON LANDS WITHDRAWN UNDER THIS ACT.**—(1) Except as otherwise provided in this Act, mining claims located pursuant to this Act shall be subject to the provisions of the mining laws. In the event of a conflict between those laws and this Act, this Act shall prevail.

(2) All mining claims located under the terms of this Act shall be subject to the provisions of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.).

(g) **PATENTS.**—(1) Patents issued pursuant to this Act for locatable minerals shall convey title to locatable minerals only, together with the right to use so much of the surface as may be necessary for purposes incident to mining under the guidelines for such use established by the Secretary of the Interior by regulation.

(2) All such patents shall contain a reservation to the United States of the surface of all lands patented and of all nonlocatable minerals on those lands.

(3) For the purposes of this section, all minerals subject to location under the Mining Law of 1872 are referred to as "locatable minerals".

(h) **REVOCAION.**—Notwithstanding any other provision of law, the Secretary of the Interior, if the Secretary determines it necessary and appropriate for the purpose of consummating an exchange of lands or interest therein under applicable law, is hereby authorized and directed to revoke the Small Tract Act Classification S.T.049794 in Clark County, Nevada.

SEC.13. IMMUNITY OF UNITED STATES

The United States and all departments or agencies thereof shall be held harmless and shall not be liable for any injuries or damages to persons or property suffered in the course of any mining or mineral or geothermal leasing activity conducted on lands described in section 1 of the Act.

SEC 14. SHORT TITLE

Sections 1 through 15 of this Act may be cited as the "Military Lands Withdraw Act of 1986".

SEC.15 REDESIGNATION.

The Luke Air Force Range in Arizona is hereby redesignated as the "Barry M. Goldwater Air Force Range".

Any reference in any law, regulation, document, record, map, or other paper of the United States to the Luke Air Force Range shall be deemed to be a reference to the "Barry M. Goldwater Air Force Range".

SEC 16. BOUNDARY ADJUSTMENT TO CUYAHOGA VALLEY NATIONAL RECREATION AREA.

Section 2 of the Act entitled "An Act to provide for the establishment of the Cuyahoga Valley National Recreational Recreation Area", approved December 27, 1974 (16 U.S.C. 460ff et seq.), is amended as follows:

(1) In subsection (a), strike out "numbered 655-90,001-A and dated May 1978" and in insert "numbered 644-80,054 and dated July 1986".

(2) At the end of subsection (a), insert the following: "The recreation area shall also comprise any lands designated 'City of Akron Lands on the map referred to in the first sentence which are offered as donations to the Department of the Interior or which become privately owned. The Secretary shall revise such map to depict such lands as part of the recreation area."

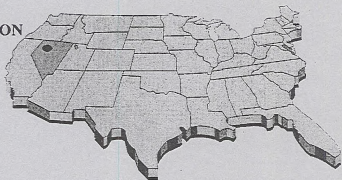
(3) In section (b), after the first sentence, insert the following:

"The Secretary may not acquire fee title to any lands included within the recreation area in 1986 which are designated on the map referred to in subsection (a) as Scenic Easement Acquisition Areas. The Secretary may acquire only scenic easements in such designated lands Unless consented to by the owner from which the

easement is acquired, any such scenic easement may not prohibit any activity, the subdivision of any land, or the construction of any building or other facility if such activity, subdivision, or construction would have been permitted under laws and ordinances of the unit of local government in which such land was located on April 1, 1986, as such laws and ordinances were in effect on such date.

Approved November 6, 1986.

NAS
FALLON



APPENDIX B

PUBLIC LAND ORDERS

PUBLIC LAND ORDER 275

B-2

PUBLIC LAND ORDER 788

B-3

PUBLIC LAND ORDER 898

B-4

PUBLIC LAND ORDER 6300

B-4

PUBLIC LAND ORDER 2635

B-5

PUBLIC LAND ORDER 6834

B-6

APPENDIX B

PUBLIC LAND ORDERS

Section 5(b)(1) of PL 99-606 requires that an LEIS be completed for the continued or renewed withdrawal of any portion of the lands withdrawn by this act. Section 5(b)(2)(A) states that the term "lands withdrawn by this act" includes lands withdrawn under public land orders 275, 788, 898, and 2635, as well as lands proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS (formerly the Master Land Withdrawal EIS). Since PL 99-606 was enacted in 1986, two other public land orders associated with NAS Fallon have been adopted. These include PLO 6300, which modified the boundary description of PLO 898 without withdrawing any additional land, and PLO 6834, which withdrew 400 acres of public land at the NAS Fallon air station. Legal descriptions of these withdrawals as filed or published in the Federal Register are provided in this appendix. These lands are not subject to renewal under PL 99-606.

UNITED STATES
DEPARTMENT OF THE INTERIOR
CODE OF FEDERAL REGULATIONS
TITLE 43--PUBLIC LANDS: INTERIOR

Chapter I--General Land Office
Appendix--Public Land Orders

Public Land Order 275

NEVADA

WITHDRAWING PUBLIC LANDS FOR USE OF THE NAVY DEPARTMENT
FOR AVIATION PURPOSES

By virtue of the authority vested in the President and pursuant to Executive Order No. 9357 of April 24, 1943, it is ordered as follows:

Subject to valid existing rights, the following-described public lands are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining and mineral-leasing laws, and reserved for the use of the Navy Department for aviation purposes:

Mount Diablo Meridian

T. 18 N., R. 29 E.,
sec. 23, SW $\frac{1}{4}$.

The area described contains 160 acres.

It is intended that the lands described herein shall be returned to the administration of the Department of the Interior when they are no longer needed for the purpose for which they are reserved.

APR 23 1945


Acting Secretary of the Interior.

PUBLIC LAND ORDER 788

NEVADA

WITHDRAWING PUBLIC LANDS FOR USE OF THE DEPARTMENT OF THE
NAVY FOR AVIATION PURPOSES.

By virtue of the authority vested in the President and pursuant
to Executive Order No. 9337 of April 24, 1943, it is ordered as
follows:

Subject to valid existing rights, the following-described
public lands are hereby withdrawn from all forms of appropriation
under the public-land laws, including the mining and mineral-leasing
laws, and reserved for the use of the Department of the Navy for
aviation purposes:

Mount Diablo Meridian

T. 18 N., 29 E.,
Secs. 15, 15, and 22;
Sec. 23, N $\frac{1}{2}$ and SE $\frac{1}{4}$.

The areas described aggregate 2,400 acres.

This order shall take precedence over but not otherwise affect the
order of November 3, 1936, of the Secretary of the Interior,
establishing Nevada Grazing District No. 3, so far as that order
affects any of the above-described lands.

It is intended that the lands described herein shall be returned
to the administration of the Department of the Interior when they
are no longer needed for the purpose for which they are reserved.

OSCAR L. CHAPMAN
Secretary of the Interior

January 10, 1952.

Federal Register Vol. 17 page 482.

(NEV-051797)

Nevada; Modification of Legal Description; Public Land Order No. 898

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

SUMMARY: This order will modify the existing Nevada boundary description of PLO No. 898, published as FR Document 53-5428 on June 19, 1953, 18 FR 3540. The new description will conform to the approved survey and protraction diagrams for the area. The original boundaries remain unchanged.

EFFECTIVE DATE: July 22, 1982.

FOR FURTHER INFORMATION CONTACT: Vienna Wolder, Nevada State Office; 702-784-5703.

SUPPLEMENTARY INFORMATION: By virtue of the authority vested in the Secretary of the Interior by Section 204 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2751; 43 U.S.C. 1714, it is ordered as follows:

1. The portion of PLO No. 898 describing Target No. 17 is hereby redescribed as follows:

Mount Diablo Meridian, Nevada.

T. 16 N., R. 33 E.,

Sec. 2, SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$;

Sec. 3, S $\frac{1}{2}$;

Sec. 4, S $\frac{1}{2}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$;

Sec. 5, E $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ and SE $\frac{1}{4}$ SE $\frac{1}{4}$;

Sec. 8, E $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$ and E $\frac{1}{2}$ SW $\frac{1}{4}$;

Secs. 9 and 10,

Sec. 11, S $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ and SE $\frac{1}{4}$;

Secs. 12 to 17, inclusive,

Secs. 20 to 26, inclusive;

Sec. 29, NE $\frac{1}{4}$;

Sec. 33, NE $\frac{1}{4}$;

Secs. 34, 35 and 36.

T. 16 N., R. 33 E. and a portion of T. 16 N., R. 34 E., unsurveyed, more particularly described as:

Beginning from the northeast corner of section 12, T. 16 N., R. 33 E.; thence easterly 2 miles; thence southerly 5 miles; thence westerly 2 miles to the southeast corner of sec. 36, T. 16 N., R. 33 E.; thence a distance of 5 miles along the east lines of secs. 36, 25, 24, 13 and 12, T. 16 N., R. 33 E., to the point of beginning.

2. The remainder of PLO No. 898 shall continue as originally published.

Inquiries concerning the land should be addressed to the Chief, Division of Operations, Nevada State Office, Branch of Lands and Minerals

MT. DIABLO MERIDIAN
TARGET NO. 17

T. 16 N., R. 33 E.,
Sec. 2, SW $\frac{1}{4}$ and W $\frac{1}{2}$ SE $\frac{1}{4}$;
Sec. 3, S $\frac{1}{2}$;
Sec. 4, S $\frac{1}{2}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$;
Sec. 5, E $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ and SE $\frac{1}{4}$ SE $\frac{1}{4}$;
Sec. 8, E $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$ and E $\frac{1}{2}$ SW $\frac{1}{4}$;
Secs. 9 and 10,
Sec. 11, S $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ and SE $\frac{1}{4}$;
Secs. 12 to 17, inclusive,
Secs. 20 to 26, inclusive,
Sec. 29, NE $\frac{1}{4}$;
Sec. 33, NE $\frac{1}{4}$;
Secs. 34, 35 and 36.
T. 16 N., R. 34 E.,
Unsurveyed, will probably be, when surveyed, sec. 7 and 8, 17 to 20, inclusive, and 29 to 32, inclusive.

The areas described, including both public and non-public lands, aggregate approximately 21,400 acres.

TARGET NO. 16

T. 17 N., R. 27 E.,
Secs. 1, 2 and 3,
Sec. 11, E $\frac{1}{2}$;
Secs. 12 and 13,
Sec. 14, E $\frac{1}{2}$;
Secs. 23 to 26, inclusive,
Secs. 35 and 36.
T. 17 N., R. 28 E., unsurveyed,
Secs. 4 to 6, inclusive,
Secs. 16 to 20, inclusive,
Secs. 27 to 32, inclusive.

The areas described aggregate approximately 17,280 acres.

TARGET NO. 15

T. 15 N., R. 29 E.,
Secs. 1, 2 and 3,
Secs. 10 to 15, inclusive,
Secs. 22, 23 and 24.
T. 15 N., R. 30 E.,
Secs. 3 to 10, inclusive,
Secs. 15 to 22, inclusive.

The areas described aggregate approximately 17,331.64 acres.

It is intended that the lands described herein shall be returned to the administration of the Department of the Interior when they are no longer needed by the Department of the Navy for the purposes for which they are reserved.

This order shall take precedence over but not otherwise affect the departmental order of November 3, 1936, establishing Nevada Grazing District No. 3, so far as such order affects any of the above described public lands.

ORRLE LEWIS,
Acting Secretary of the Interior.

June 12, 1953.

[P. R. Doc. 53-5428; Filed, June 15, 1953; 8:46 a. m.]

TITLE 43—PUBLIC LANDS: INTERIOR

Chapter I—Bureau of Land Management, Department of the Interior

Appendix—Public Land Orders [Public Land Order 898]

NEVADA

WITHDRAWING PUBLIC LANDS FOR USE OF THE DEPARTMENT OF THE NAVY AS AERIAL BOMBING RANGES IN CONNECTION WITH NAVAL AUXILIARY AIR STATION AT FALLON, NEVADA

By virtue of the authority vested in the President and pursuant to Executive Order No. 10355 of May 28, 1952, it is ordered as follows:

Subject to valid existing rights, the public lands within the following-described areas in Nevada are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining and mineral-leasing laws and reserved for the use of the Department of the Navy as aerial bombing ranges in connection with the Naval Auxiliary Air Station at Fallon, Nevada:

43 CFR Public Land Order 6824

[NV-943-4214-10; II-37675]

Withdrawal of Public Land for the Department of the Navy for Housing and a Safety Arc for an Explosive Ordnance Handling Facility; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

SUMMARY: This order withdraws 400 acres of public land from surface entry and mining for a period of 20 years for the Department of the Navy for housing and a safety arc for an explosive ordnance handling facility. The lands have been and remain open to mineral leasing.

EFFECTIVE DATE: March 21, 1931.

FOR FURTHER INFORMATION CONTACT: Vienna Wolder, BLM, Nevada State Office, P.O. Box 12000, Reno, Nevada 89520, 702-784-5461.

By virtue of the authority vested in the Secretary of the Interior by section 204 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2751; 43 U.S.C. 1714, it is ordered as follows:

1. Subject to valid existing rights, the following described public lands are hereby withdrawn from settlement, sale, location, or entry under the general land laws, including the United States mining laws (30 U.S.C. Ch.2), but not from leasing under the mineral leasing laws, for use by the Department of the Navy for housing and a safety arc for an explosive ordnance handling facility.

Mount Diablo Meridian

T. 18 N., 23 E.

Sec. 8, SE¼;

Sec. 18, NE¼, NW¼SE¼.

The area described contains 400 acres in Churchill County.

2. The withdrawal made by this order does not alter the applicability of those public land laws governing the use of the lands under lease, license, or permit or governing the disposal of the mineral

or vegetative resources other than under the mining laws.

3. This withdrawal will expire 20 years from the effective date of this order unless, as a result of a review conducted before the expiration date pursuant to Section 204(f) of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1714(f), the Secretary determines that the withdrawal shall be extended.

Dated: February 11, 1931.

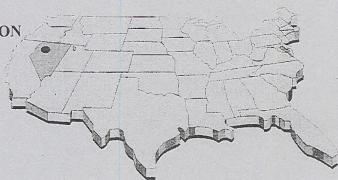
Dave O'Neal,

Assistant Secretary of the Interior.

[FR Doc. 61-6057 Filed 3-20-61; 8:45 am]

CALLER CODE 4310-42-4

NAS
FALLON



APPENDIX C

PUBLIC INVOLVEMENT

SCOPING LETTER	C-2
NOTICE OF INTENT	C-8
NEWSPAPER ADVERTISEMENT	C-10
SCOPING SUMMARY	C-11

APPENDIX C PUBLIC INVOLVEMENT

As discussed in Section 1.7 of this document, the NEPA process is designed to involve the public in the federal decision making process. Appendix C contains the public involvement materials used to inform federal, state, and local agencies, elected officials, organizations, and individuals about this LEIS process.

A scoping letter, including a project summary and location maps, was developed to announce the Navy's intent to prepare the LEIS, the start of the public scoping period, and the scoping meetings. A Notice of Intent (NOI) was published in the Federal Register and a summary of the NOI and scoping meeting information was published in three local newspapers. The scoping summary presents the written and verbal comments received during the scoping period.

Legislative Environmental Impact Statement For the Extension of the B-20 Land Withdrawal at NAS Fallon, Nevada

Introduction

In November of 1986, Congress passed the Military Lands Withdrawal Act of 1986 (Public Law [PL] 99-606), which withdrew public lands in Nevada, New Mexico, Arizona, and Alaska for the Departments of the Navy, Air Force, and Army (Section 1, 100 Statute 3469). Under this legislation, the Navy withdrew approximately 21,576 acres of land in a checkerboard pattern for Navy use in Churchill County, Nevada, to support Naval Air Station (NAS) Fallon's Bravo-20 (B-20) training range (Section 1[a]). These lands are shown on Figure 1. PL 99-606 withdrew no other NAS Fallon-administered lands.

As stated in Section 5(a) and (b)(1) of PL 99-606, "the withdrawal and reservation established by the act will terminate 15 years after the date of enactment of the act. No later than 12 years after the date of enactment of PL 99-606 [November 6, 1998], the Secretary of the Navy shall publish a draft environmental impact statement (EIS) consistent with the requirements of the National Environmental Policy Act of 1969 (NEPA) concerning continued or renewed withdrawal of any portions of the lands withdrawn by this act for which the Secretary intends to seek such continued or renewed withdrawal." The Navy proposes to renew its withdrawal at B-20, and a Draft Legislative EIS (LEIS) will be prepared to fulfill the Navy's requirements under PL 99-606. The LEIS is being prepared in accordance with the Military Lands Withdrawal Act of 1986, NEPA, the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR Parts 1500-1508), and the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B). The Navy is the lead agency for the proposed action and the Bureau of Land Management (BLM) has been requested to serve as a cooperating agency.

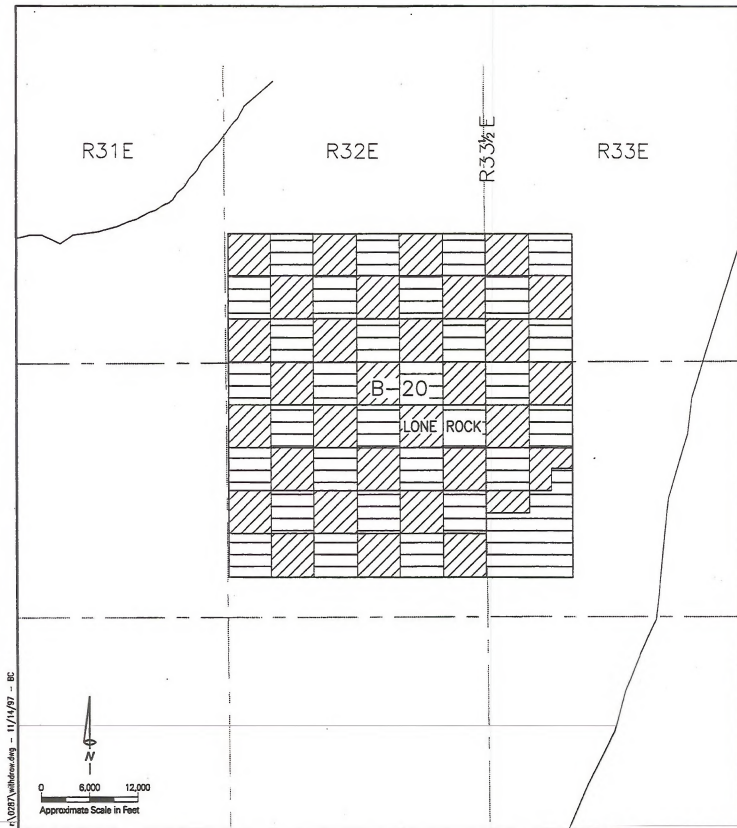
Location

NAS Fallon is located in the Lahontan Valley of Churchill County in west-central Nevada, approximately 70 miles east of Reno and six miles southeast of the City of Fallon. In addition to the air station, NAS Fallon includes four geographically separate training ranges—Bravo-16 (B-16), Bravo-17 (B-17), Bravo-19 (B-19), and B-20. Much of the NAS Fallon air station and B-20, and all of B-16, B-17, and B-19 training ranges, are on lands withdrawn pursuant to public laws and public land orders for use by the Navy. In addition to these withdrawn lands, NAS Fallon has proposed to withdraw lands around training ranges B-16, B-17, and B-19. This proposed withdrawal action has been evaluated in the Draft EIS for the Withdrawal of Public Lands for Range Safety and Training Purposes at NAS Fallon, Nevada, released for public review in July 1997. Figure 2 shows the location of existing and proposed lands administered and owned by the Navy.

Purpose and Need

Preparation of this document has been mandated by the Military Lands Withdrawal Act of 1986. The purpose of the proposed action, the renewal of withdrawn lands at B-20, is to continue to provide training areas at B-20 for realistic and strategic training in real world combat environments and to provide for public safety from training operations.

The Navy's need to continue using B-20 is a function of the training and tactical mission of the Navy, the strategic location and established resources of the Fallon Range Training Complex (FRTC), and public safety. B-20 is an important component of the FRTC, without which the training mission at NAS Fallon would be vitally impacted.



B-20 was formally established with lands acquired from the Southern Pacific railroad company in 1982 and lands withdrawn in 1986. These lands form a checkerboard pattern at the range.

Legend

- Withdrawn lands under PL 99-606
- Navy-owned lands acquired from Southern Pacific Railroad Co.






Withdrawn and Acquired Lands at B-20

NAS Fallon, Nevada

Source: US Dept. of Interior, BLM, Fallon Quadrangle, 1:100,000 1978

Lands at training ranges B-16, B-17, and B-19 were withdrawn in 1953 under PLO 898. Lands at B-20 were acquired in 1982 or withdrawn in 1986 under Public Law 99-606. Lands at the air station were withdrawn under PLOs 275, 788, 2635, and 6834.

Legend

- | | |
|---|--|
|  | Withdrawn lands under PLO-898 |
|  | Withdrawn lands under the Range Safety and Training Public Land Withdrawal |
|  | Withdrawn lands under PL 99-606 |
|  | Navy-owned lands |
|  | Stillwater National Wildlife Refuge |

-
- Indian reservation

NAS Fallon Withdrawn Lands

NAS Fallon, Nevada

Figure 2

Proposed Action and Alternatives

The Navy proposes to file an application for extension of the 21,576 acres of land withdrawn at the B-20 training range pursuant to the Military Lands Withdrawal Act of 1986 (Section 1[a]). The act authorized the reservation of the withdrawn land for use by the Navy for testing and aerial bombing, missile firing, and tactical maneuvering and air support (Section 1[a][2][A]), and for other defense-related purposes subject to those requirements indicated in Section 3(f) of the act (Section 1[a][2][B]). The Navy proposes to extend the withdrawal for continued use as stated in PL 99-606. Implementation of the proposed action would not result in the withdrawal of additional lands, or in the establishment of additional public use restrictions.

The following two alternatives will be considered in the LEIS:

Alternative 1: Continued Military Need for and Request Extension of the Land Withdrawal at B-20 (Preferred). Under this alternative, the Navy would apply for an extension of the withdrawal of the 21,576 acres at B-20, as outlined by PL 99-606. The Navy would continue to use B-20 for training operations consistent with those currently conducted and as specified in Section 1(a)(2)(A) and (B) of PL 99-606. This alternative is currently the preferred alternative and as such would not result in the withdrawal of additional lands or an establishment of additional public use restrictions.

In accordance with PL 99-606, three years prior to the termination of the land withdrawals established by PL 99-606 the Secretary of the Navy must advise the Secretary of the Interior if NAS Fallon has a continuing military need for the 21,576 acres withdrawn at B-20 that will extend past the withdrawal termination date of November 6, 2001 (Section 8[a]1). Subsequently, by November 6, 1998 the Secretary of the Navy will so advise the Secretary of the Interior and will subsequently file an application for an extension of the land withdrawal at B-20 in accordance with Department of the Interior regulations and procedures applicable to the extension of land withdrawals for military uses.

No Action Alternative. Under the No Action Alternative, the Navy would not apply for an extension for the 21,576 acres of withdrawn land at B-20. By November 6, 1998, the Navy would file a notice of intention to the Secretary of the Interior to relinquish the withdrawn lands at B-20 (Section 8[a][3]). Navy training activities at B-20 would cease upon expiration of the withdrawal on November 6, 2001.

Prior to submitting the notice of intention, the Secretary of Defense, acting through the Navy, would prepare a written determination concerning the extent to which the lands to be relinquished are contaminated with toxic, explosive, and hazardous materials (Section 8[b][1]). If any withdrawn land at B-20 is contaminated, and the Secretary of the Interior, in consultation with the Secretary of the Navy, decides that decontamination is practically and economically feasible, and upon decontamination the land could be opened to operation of some or all public land laws, the Secretary of the Navy would decontaminate the land to the extent that funds were appropriated for such a purpose (Section 8[c]).

If the Secretary of the Interior, after consulting with the Secretary of the Navy, concludes that decontamination is not practically or economically feasible, or that the land cannot be decontaminated sufficiently to be opened to operation of some or all of the public land laws, or if Congress does not appropriate a sufficient amount of funds for the decontamination of the lands, the Secretary of the Interior would not be required to accept the land for relinquishment (Section 8[d]).

On November 6, 2001, the B-20 withdrawal would expire. Relinquishing 21,576 acres of withdrawn land at B-20 would result in the loss of any practical use of the remaining 19,430 acres at B-20 due to the checkerboard pattern of the owned and withdrawn lands. While this alternative does not fulfill evaluation criteria for training requirements, inclusion of the No Action Alternative is required by NEPA.

If the withdrawn land at B-20 is contaminated to an extent that prevents opening the land to the public and the Secretary of the Interior declines to accept jurisdiction over the land at the expiration of the withdrawal, the Secretary of the Navy must take appropriate steps to warn the public of the contaminated state of the B-20 land and of any risks associated with entry onto B-20 land. In addition, the Navy may not

undertake any activities on B-20 land except in connection with decontamination (PL 99-606, Section 8(e)). If the land were sufficiently uncontaminated, the Department of the Interior would assume administration of the 21,576 acres at B-20.

Environmental Analyses

The environmental analyses presented in the LEIS will consist of three parts—affected environment, environmental consequences, and cumulative impacts. Each section will focus around a discussion of the following resources (this list may change through information provided during the scoping process):

- Land Use
- Biological Resources
- Geology and Soils
- Water Resources
- Cultural Resources
- Environmental Justice and Socioeconomics
- Air Quality
- Noise
- Mineral Resources
- Livestock and Wild Horse Management
- Recreation and Visual Resources
- Public Health and Safety
- Transportation

Affected Environment

The existing environmental and socioeconomic conditions at NAS Fallon and the FRTC will be presented in the LEIS as the basis for identifying and evaluating environmental impacts resulting from the alternatives.

Section 5(b)(1) of PL 99-606 requires that an LEIS be completed for the continued or renewed withdrawal of any portion of the lands withdrawn by this act. Section 5(b)(2)(A) states that the term "lands withdrawn by this act" includes lands withdrawn under public land orders 275, 788, 898, and 2653, as well as lands proposed for withdrawal under the Range Safety and Training Public Land Withdrawal EIS (formerly the Master Land Withdrawal EIS). To satisfy this requirement, the LEIS will include a discussion of these lands in the affected environment and cumulative impacts section. Table 1 lists the enactment date, withdrawn acreage, duration period, and the location of these lands.

Table 1
Former, Existing, and Proposed Withdrawn Lands Supported by NAS Fallon

PLO/PL Number	Enactment Date	Withdrawn Acreage	Location of Withdrawal	Term ¹
PLO 275	April 23, 1945	160	NAS Fallon	In perpetuity
PLO 788	January 10, 1952	2,400	NAS Fallon	None
PLO 898	June 12, 1953	17,280	B-16	None
		21,400	B-17	None
		17,332	B-19	None
PLO 2635	March 20, 1962	987	NAS Fallon	None
PLO 6834	February 11, 1991	400	NAS Fallon	20 years
PL 99-606	November 6, 1986	21,576	B-20	15 years
Proposed Range Safety and Training Public Land Withdrawal ²	—	127,365	Around B-16, B-17, and B-19, shoal site, and the Dixie Valley area	25 years (requested)

1. "None" is defined as the term ending only when the lands are "no longer needed by the Department of the Navy for the purpose for which they are reserved, such as military training and support." If terminated, the lands would return to BLM, BUREC, or DOE jurisdiction.

2. The proposed Range Training and Safety Public Land Withdrawal EIS would withdraw an additional 10,400 acres around B-16, 33,400 acres around B-17, 12,200 acres around B-19, 68,600 acres in the Dixie Valley area, and 2,765 acres at the shoal site.

Environmental Consequences

The LEIS will evaluate the environmental impacts resulting from the Preferred Alternative, the renewal of the B-20 land withdrawal and continued use of B-20, and the No Action Alternative, the relinquishment of withdrawn lands at B-20 with no continued military use at B-20.

Cumulative Impacts

PL 99-606 directs the evaluation of cumulative effects in this LEIS. Section 6(b) states that, "Each of the military departments concerned and the Secretary of the Interior shall, in this report [the LEIS], evaluate the cumulative effects of continued or renewed withdrawal for military purposes . . . on the environment and on the population of Nevada." The law stipulates that the cumulative effects evaluation should consider the actual and proposed withdrawal for military and related purposes of other lands in Nevada, including (but not limited to) the following lands:

- Lands withdrawn by Sections 1(a) and (b) of PL 99-606 (21,576 acres of land at the NAS Fallon B-20 training range; 2,945,000 acres of land in Clark, Nye, and Lincoln Counties for Nellis Air Force Base; and lands withdrawn under PL 98-485);
- Lands withdrawn by PLOs 275, 788, 898, and 2635 (existing withdrawn lands at the NAS Fallon air station and training ranges B-16, B-17, and B-19);
- Lands proposed for withdrawal at NAS Fallon under the Range Safety and Training Public Land Withdrawal EIS (formerly the Master Land Withdrawal); and
- Lands withdrawn or being considered for withdrawal or use by the Department of Energy (Section 6[b][2]).

The LEIS will evaluate the cumulative impacts of the continued B-20 land withdrawal when added to other past, present, and reasonably foreseeable land withdrawals, as described above, in the region.

NOTICE OF INTENT

The Notice of Intent to prepare the LEIS appeared in Federal Register Volume 62, Number 219, page 60888 on November 13, 1997.

Notice of Intent to Prepare a Legislative Environmental Impact Statement (LEIS) for the Continued Use of Lands in Bravo-20 Bombing Range (B-20) as identified in the Military Land Withdrawal Act (PL 99-606) of 1986.

SUMMARY: The Department of the Navy announces its intent to prepare a Legislative Environmental Impact Statement (LEIS) pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508). The LEIS will analyze the proposed continued use of withdrawn lands supporting B-20 at Naval Air Station (NAS) Fallon, Nevada. Section 5 of the Military Lands Withdrawal Act of 1986 (Public Law 99-606) directs the Navy to prepare a LEIS to evaluate the environmental effects of continued naval operations on the checkerboard pattern of withdrawn public lands that make up the B-20 training range. The LEIS will evaluate the cumulative effects of all NAS Fallon land withdrawals and serve as a Navy recommendation to Congress for consideration in determining the continued use of B-20 lands. In order to maintain the military mission, the Navy is proposing the continued use of the B-20 as defined by the Military Lands Withdrawal Act, Section 1(a). The actions considered in the LEIS would not result in the withdrawal of additional lands. The LEIS will analyze the potential environmental effects of the proposed action, public scoping alternatives, if applicable, and a "no action" alternative. Under the "no action" alternative, withdrawn lands listed in Section 1(a) of the Act would not be renewed for continued military purposes.

ADDRESSES: The Navy will initiate the public scoping process for the purpose of determining public concerns and issues to be analyzed and addressed for this action. The Navy will hold public scoping meetings on December 9, 1997 at 7:00 p.m. to 10:00 p.m. at Fallon, Nevada, December 10, 1997 at 7:00 p.m. to 10:00 p.m. at Lovelock, Nevada, and December 11, 1997 at 7:00 p.m. to 10:00 p.m. at Reno, Nevada. A Navy public open house will occur at each site from 3:00 p.m. to 5:30 p.m. prior to each scoping meeting.

A brief presentation will precede a request for public information and comments. Navy representatives will be available at these meetings to receive information and comments from agencies and the public regarding information on issues of concern. It is important that federal, state and local agencies, and interested individuals take this opportunity to provide information or identify environmental concerns that should be addressed during the analysis and preparation of the LEIS. In the interest of the available time, each speaker will be asked to limit their oral comments to three minutes. Comment forms will also be available to submit written comments at these meetings.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of oral comments at the public scoping meetings. To be most helpful, scoping comments should clearly describe specific information, data, issues or topics which the commentator believes the LEIS should address. Written comments or questions regarding the scoping process and/or LEIS should be postmarked no later than Friday, February 6, 1998 and sent to the following address.

*Draft LEIS for the Renewal of the B-20 Land Withdrawal
at NAS Fallon, Nevada*

NOTICE OF INTENT (continued)

FOR FURTHER INFORMATION CONTACT: Written statements and or questions regarding the scoping process should be mailed to:

Commanding Officer, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, CA 94066-5006 (Attn: Mr. Sam Dennis, Code 7031), telephone (650) 244-3007, fax (650) 244-3206, e-mail at: <slldennis@efawest.nav-fac.navy.mil>

Dated

DARSE E. CRANDALL
LCDR, JAGC, USN,
Federal Register Liaison Officer.

NEWSPAPER ADVERTISEMENT

The following newspaper advertisement was published in the Reno Gazette and Lahontan Valley News Lovelock Review Minor on November 26, 1997, the Lahontan Valley News on November 28 and 29, 1997, and the Reno Gazette on November 30, 1997, and December 1, 1997. The advertisement declared the Navy's intent to prepare an LEIS for the Renewal of the B-20 Land Withdrawal at NAS Fallon, Nevada and announced the start of the public scoping process

PUBLIC NOTICE

Legislative Environmental Impact Statement for the Extension of the B-20 Land Withdrawal at Naval Air Station Fallon, Nevada

The U.S. Navy announces its intent to prepare a legislative Environmental Impact Statement (LEIS) to evaluate the effects of the renewal of the B-20 training range land withdrawal at Naval Air Station (NAS) Fallon, Nevada. The LEIS will be prepared in accordance with the Military Lands Withdrawal Act of 1986 (PL 99-606), the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR, parts 1500-1508), and the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B). The Navy is the lead agency for the proposed action and the Bureau of Land Management (BLM) has been requested to be a cooperating agency.

The LEIS will examine the potential impacts to the environment that may result from the preferred alternative, which is the renewal of the B-20 land withdrawal, and the no action alternative, which would relinquish withdrawn lands at B-20. The LEIS also will examine the cumulative effects of Navy and other Nevada Department of Defense land withdrawals, as required by PL 99-606. Major environmental issues that will be addressed in the LEIS include land use, biological resources, geology and soils, water resources, cultural resources, environmental justice and socioeconomic, air quality, noise, mineral resources, livestock and wild horse management, recreation and visual resources, public health and safety, and transportation. Three public scoping meetings will be held at the following locations.

December 9, 1997

Fallon Convention Center

100 Campus Way

Fallon, Nevada 89406

Open House: 3:00 PM - 5:30 PM

Public Scoping Meeting: 7:00 PM - 10:00 PM

December 10, 1997

Pershing County School District

1150 Elmhurst Avenue

Lovelock, Nevada 89419

Open House: 3:00 PM - 5:30 PM

Public Scoping Meeting: 7:00 PM - 10:00 PM

December 11, 1997

Reno-Sparks Convention Center Boardroom

4590 South Virginia Street

Reno, Nevada 89504

Open House: 3:00 PM - 5:30 PM

Public Scoping Meeting: 7:00 PM - 10:00 PM

The public scoping meetings will be preceded by an open house at each of the three locations. The purpose of the open houses is to familiarize the public with the Navy's proposed renewal and to enable the public to provide information regarding personal concerns. The purpose of the public scoping meeting is to receive oral and written public comments regarding public information and concerns from the proposed action. A brief presentation will precede the request for public comment. Federal, state, and local agencies and interested individuals are encouraged to take this opportunity to identify environmental concerns that should be addressed in the preparation of the LEIS. A court reporter will be on hand to record public testimony during the public scoping meetings. In the interest of available time, each speaker during the public scoping meeting will be asked to limit oral comment to three (3) minutes or less, and may submit more detailed comments in writing to the address listed below. Written comments must be submitted no later than February 13, 1998, to: Commanding Officer, Engineering Field Activity West, Naval Facilities Engineering Command, Attn: Mr. Sam Davis, Environmental Planning Branch, Code 7031, 900 Commodore Drive, San Bruno, California, 94069-5006. Phone: (650) 244-3007. Fax: (650) 244-3226.

SCOPING SUMMARY

The public scoping period for the Navy's LEIS for the Renewal of the B-20 Land Withdrawal at NAS Fallon, Nevada ran from November 13, 1997, to February 13, 1998. Public scoping meetings were held in three locations to receive written and oral comments on potential environmental issues that should be included in the LEIS. The first scoping meeting was held at the Fallon Convention Center, Fallon, Nevada, on December 9, 1997. The second meeting was held at the Pershing County School District, Lovelock, Nevada, on December 10, 1997. The third meeting was held at the Reno-Sparks Convention Center, Reno, Nevada, on December 11, 1997. A summary of the written and oral comments received during the scoping period is provided in Table C-1.

Table C-1
Summary of Scoping Issues

Commenter	Form	Issues
Alice Schneider	Oral	<ul style="list-style-type: none"> Supports the renewal of the B-20 withdrawal so that B-20 can continue to relieve air traffic at the B-16 training range
Grace Potorti, Rural Alliance for Military Accountability	Oral	<ul style="list-style-type: none"> There should be an alternative to expand operations at B-20 and close B-16, as promised by former Navy officials The EIS should give an overview of all operations that occur at NAS Fallon including those related to airspace NAS Fallon should implement an ecosystem management system for all lands and airspace The EIS should characterize contamination from ordnance at B-20 The EIS should address the potential of contamination from ordnance and other toxics at B-20 including the potential for contaminants to go into Stillwater National Wildlife Refuge (NWR) during flooding The EIS should address off-range ordnance that has fallen in the Stillwater NWR The EIS should address the increased risk of hung ordnance drops at B-20 The EIS should address impacts of B-20 on the flyway The EIS should discuss whether B-20 overflights have affected Grimes Point
Thomas Wasson	Oral	<ul style="list-style-type: none"> The Western Bands of the Shoshone Nation of Indians owns the land including B-20 according to the Treaty of 1863 The Nation would like to be informed of any politically or economically damaging activity occurring or planned to occur at B-20

Table C-1 (continued)
Summary of Scoping Issues

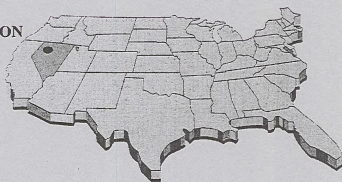
Commenter	Form	Issues
Kathy Rusco	Oral	<ul style="list-style-type: none"> The US should reevaluate its military needs and document the costs of its actions to the human and natural environment
Bill Durbin, Geologist, State of Nevada	Written	<ul style="list-style-type: none"> The EIS should give a comprehensive inventory of mineral resources within and adjacent to the B-20 training range The EIS should analyze what measures will be implemented to protect significant mineral potential areas from contamination resulting from range operations The EIS should analyze non-mission critical land areas that might be suitable for return to the public land pool
Robert Williams, Field Supervisor, US Fish and Wildlife Service, Nevada Ecological Services	Written	<ul style="list-style-type: none"> The EIS should address impacts to federally listed endangered, threatened, candidate, and proposed species as well as any species of concern to the Fish and Wildlife Service which may be affected by the continued use of the training range lands The EIS should address all impacts each alternative would have on fish, wildlife, and their habitats The EIS should identify all hazardous or toxic materials used or produced at NAS Fallon The EIS should discuss the potential impacts hazardous or toxic materials used or produced at NAS Fallon could have on fish, wildlife, and their habitats The EIS should assess the potential for a catastrophic occurrence of hazardous or toxic material release and discuss preventative measures to reduce the likelihood of such an occurrences The EIS should identify the locations and qualifications of the emergency response team and equipment which would respond to accidents involving hazard or toxic materials The EIS should discuss the quantities of potentially hazardous or toxic materials released on bombing ranges The EIS should address the potential impacts to water quality in the Carson Sink The EIS should address potential impacts to both surface and groundwater quality in Stirlingwater NWR in years when water in the Carson Sink, including water covering B-20, backflows into the Refuge

Table C-1 (continued)
Summary of Scoping Issues

Commenter	Form	Issues
Robert Williams (cont'd)		<ul style="list-style-type: none"> • The EIS should address water quality of any pooled waters forming in depressions created from ordnance releases at B-20 • The EIS should develop detailed mitigation measures to reduce or compensate for the negative impacts on fish and wildlife resources associated with the continued use of bombing range
Maud Naroll, Nevada State Clearinghouse	Written	<ul style="list-style-type: none"> • The EIS No Action Alternative should address the impacts to the Navy's training mission at NAWS Fallon • The EIS should address Lone Rock's National Register eligibility as a Traditional Cultural Property • If Lone Rock is eligible for the National Register of Historic Places, the EIS should address what effect the extension of the B-20 Land Withdrawal will have on this property • The EIS should address that any water wells or boreholes that may be located on the subject property must be plugged and abandoned, as required in Chapter 534 of the Nevada Administrative Code
Richard Heap, Regional Manager, Region I	Written	<ul style="list-style-type: none"> • Supports the renewal of the B-20 withdrawal because the expansion of this range could mitigate the present and future impacts of other Navy actions in Churchill County

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NAS
FALLON



APPENDIX D

LETTERS OF CONSULTATION



APPENDIX D
LETTERS OF CONSULTATION

Appendix D includes letters of consultation received during preparation of the Draft LEIS.

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DEPARTMENT OF THE NAVY

NAVAL AIR STATION
4705 PASTURE ROAD
FALLON, NEVADA 89404-0000

IN REPLY REFER TO

5750
Ser 188/0373
13 APR 78

Mr. Ronald James
State Historic Preservation Officer
State Historic Preservation Office
Capitol Complex
100 Stewart Street
Carson City, NV 89710

Dear Mr. James:

The Department of the Navy is preparing a Legislative Environmental Impact Statement (LEIS) for the continuation of the withdrawal of land from the Public Domain at its Bravo 20 (B-20) Training Range in the Carson Sink, Churchill County, Nevada. In November 1986 Congress passed the Military Lands Withdrawal Act (Public Law 99-606) which withdrew public lands in several western states, including Nevada, for the exclusive use of the Army, Air Force and Navy. Under this legislation 21,576 acres of land in a checkerboard pattern were withdrawn for the Navy at its B-20 training range. The remainder of the 41,000-acre B-20 training range was acquired in a checkerboard pattern by the Navy from private landowners in the mid-1980s and is owned in fee-title. The entire 41,000-acre B-20 has been used by military forces for aerial bombardment training since 1944.

PL 99-606 requires that each branch of service administering land withdrawn by that Act prepare an Environmental Impact Statement on the potential impacts of continuing the withdrawal beyond 2001 and to submit the LEIS to Congress with its application for continuance of the withdrawal. As the continued use of this property does not anticipate any changes in use, additional construction or relocation of existing targets that might affect cultural resources, we have not attempted any additional field surveys to identify properties that might qualify for inclusion in the National Register. Since the literature search conducted for the Cultural Resources Management Plan in 1993 which identified only one isolate (CH1014) on B-20, the Navy has conducted a project specific survey of a small portion of the range and found no evidence of prehistoric occupation in that project area (*An Intensive Archaeological Survey of B-20 Submarine Target, B-19 Holding Area for Excess Target Materials, and B-17 Holding Area for Excess Target Materials*, Duff 1994; *An Intensive Archaeological Survey for a B20 Storage Pad* Creger 1997a, *An Intensive Archaeological Survey for Two Howitzer Targets on B20*, Creger 1997b, and *An Intensive Archaeological Survey for Temporary Targets on B20*, Creger 1997c) and as a part of *An Optimal Foraging Model of Hunter-Gatherer Land Use in the Carson Desert*, Zeanah et al. 1995, a minimum of five percent of the training range has been surveyed finding two isolated projectile points. Be assured that should Congress extend the withdrawal and should the Navy have need to modify its existing use of the range, move targets, add new ones, make infrastructure improvements or approve some other action that has the potential to effect properties that might

qualify for inclusion in the National Register, prior to approval of such undertakings the Navy will survey the area of potential impact and consult with you in accordance with the provisions of our Programmatic Agreement (PA) on the management of cultural resources on NAS Fallon land executed June 1996.

In the approximate middle of the playa on Navy fee owned land, is located the remains of a volcanic plug. This rock outcrop reportedly rose vertically from the playa floor to approximately 210 feet in height. It was named Lone Rock, an isolated remnant of a different geologic time near the center of the flat playa on which B-20 is located. According to Catherine S. Fowler's research *In the Shadow of Fox Peak, An Ethnography of the Cattail Eater Northern Paiute People of Stillwater Marsh, 1992*, Lone Rock figured in the Paiute mythology. Lone Rock for many years was the target on B-20. The pounding it has taken since the property became a bombing range in 1944 has reduced this rock to a rubble mound little more than half its reported height. Because of Dr. Fowler's work, we consulted with the Fallon Paiute-Shoshone Tribal Chairman, Alvin Moyle, the Walker River Paiute Tribal Council and their spiritual leader, Ellison McMasters Jr., to determine if Lone Rock might qualify for inclusion in the National Register of Historic Places as a traditional cultural property. Our consultation involved several meetings (January 8, 1998) and putting Mr. Moyle on-the-ground at Lone Rock (January 23, 1998). Mr. Moyle was tasked by Mr. McMasters, after receiving special guidance, to visit the site and report his finding to the Paiute elder before he could make any statement about the significance of this place. Their findings were that while the site of Lone Rock once may have been important to their ancestors, it no longer conveys that sense of place, and therefore, does not have traditional cultural significance to their tribal communities. Copies of letters confirming this finding from Fallon Paiute-Shoshone and Walker River Paiute Tribes are enclosed.

From this consultation with the Paiute community, we conclude that while Lone Rock may be a part of the traditional beliefs passed down through the generations by the Paiute peoples orally, documentation now exists stating it is not important "in maintaining the continuing cultural identity of the community" (*National Register Bulletin 38, p.1*), and therefore, will not qualify for inclusion in the National Register.

In accordance with the regulations (36 CFR Part 800) implementing Section 106 we have determined that the continued use of B-20 for training in the delivery of air to ground ordnance will not affect any properties eligible for or included in the National Register of Historic Places. As you are aware from our previous discussions on the NAS Fallon Cultural Resources Management Plan and the PA among us and the Advisory Council on Historic Preservation the ordnance impact areas on B-20 are too contaminated with unexploded ordnance to permit access for archeological survey, and it is assumed that if any evidence of prehistoric occupation of this area had existed prior to the present use it has been so altered by 50 plus years of surface destruction that it would no longer possess the integrity required to qualify for inclusion in the National Register. The proposed continuation of the Navy's use of B-20 contemplates no change in the location of the existing high impact areas. Should that be necessary in the future the areas that would be affected by a proposed change will be surveyed and we shall consult further with

you on our findings at that time.

Should you have any questions about the proposal for the continued use of B-20 or the results of our investigations to assess the impact on cultural resources, please call Larry Jones at (702) 426-2405 or Cliff Creger at (702) 426-2292.

Sincerely,



D. S. PURSEL

Deputy Public Works Officer

By direction of
the Commanding Officer

Encl:

(1) Letters from the Fallon Paiute-Shoshone Tribe and the Walker River Paiute Tribe

Copy to: EFA West (Code 2031LW)

LETTER
ADMIN PINK COPY (w/o encl)
ADMIN YELLOW COPY
PW SERIALIZED COPY
ORIGINATOR'S COPY
PW'S "TO ADMIN"/WEEKLY READ
DATE OUT OF PW: 4-10-98

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Fallon Paiute-Shoshone Tribe

8855 Mission Road • Fallon, NV 89406
(702) 423-6075 • FAX (702) 423-5202

February 6, 1998

Captain Scott Ronnie, Commanding Officer
NAS Fallon
4755 Pasture Road
Fallon, NV 89406

Dear Captain Ronnie:

In providing you our findings of the Bravo 20, Lone rock site, I would first of all like to thank you for including the Fallon Paiute-Shoshone tribe in this process of determining if the Lone rock area has traditional, sacred or cultural values to the Tribe, today. Although, I could be brief and to the point I feel it necessary to report our findings as follows.

In our meeting of January 8, 1998, my uncle, Ellison McMaster provided his views of the primary question with emphasis on the fact that the site has been used by the Department of Defense, NAS Fallon for years.

As a follow up, it was necessary to go to Lone rock to, first of all observe the site. Secondly to establish an area at the site that may have been utilized temporarily or semi-permanently at one time by the "Nuhmuh". Although the area had numerous bomb craters, I found an area which would provide me the opportunity to ask for a sign, with reference to the question.

In my observation of Lone Rock today and what the Rock and surrounding area could have looked like in the past, the uniqueness of Lone Rock could have been a site where one went to obtain a vision of direction. Let me point out that this is an observation only.

In reference to any present day concerns the Fallon Tribe would have, I would have to declare that the area without any sign of being a previous marsh or an area where the ancestors would have camped, that the Lone Rock area would be clear of any Traditional or cultural values/concerns at this time.

In reference to the Lone Rock being sacred. To address this matter, we would have to recognize the past before we can advance to the present.

To the Native American people, the earth is our mother. The Earth is sacred. Throughout the years the Earth has been used for numerous purposes such as for the training of pilots in the U.S. Armed Forces. National parks have been set aside for general public use with sanctuaries for wildlife habitat.

In reference to these two uses of the lands we have, we would have to recognize the fact that this world has people like SADDAM HUSSEIN who could destroy countries with "his" weaponry.

On the other side of those that are insane, we have been able to realize the beauty of our country. Hopefully, the U.S. Government will not prohibit the people from that luxury, especially those areas that are definitely sacred to the native American people such as the burial lands throughout the United States, Canada and Alaska.

Again on behalf of the Fallon Paiute-Shoshone Tribe, Thank you for this opportunity to be included in this question with the lands our people traveled.

Sincerely,


ALVIN MOYLE, Chairman of the
Fallon Paiute-Shoshone Tribe

cc: File



Walker River Paiute Tribe

P.O. Box 220 • Schurz, Nevada 89427
Phone: (702) 773-2306
FAX: (702) 773-2585

March 3, 1998

Mr. Larry Jones
NAS-Fallon Public Works Department
Code 188
4755 Pasture Road
Fallon, NV. 89496-5000

Dear Mr. Jones

We have investigated the Lone Rock Site located on Bravo 20. Our investigation included talking with Alvin Moyle at the Fallon Paiute/Shoshone Tribe. His perspective was valuable as he physically visited the site. We have also spoken to Ellison McMasters Jr. concerning the site. As you are aware these two individuals are familiar with the issue as you spoke to both of them.

We as you may or may not understand have used methods in our inquiries which can best be described as "intangible" in most scientific circles. Nonetheless these avenues are available to certain individuals within our People. Through these methods we believe that this site was utilized at one time by our People as a special place in which we could pray and gather knowledge. However we also believe that with the encroachment of Military activities within the last 50 or so years that the site has lost the very trait which made it special to us. This in itself is a tragedy and a great loss to our People. We believe that the site cannot be utilized as it was in the past. However with that being said please do not accept it as being the general policy of this or any other Tribe. Each site must be evaluated from the Nummuh perspective which means we must be involved.

We must insist that we be made aware of any other sites that may have cultural value to us or our neighboring Tribes. This sort of issue is much too valuable to the future of our People for us not to be consulted.

In closing we would like to thank you for the opportunity to present our view of this issue. Unfortunately for us the request should have been made 50 years ago. Be that as it may please do not hesitate to call Jon McMasters at (702) 773-2002 or his home number of (702) 773-2225 if you have any questions. Again thank you.

Sincerely,

Cassidy D. Williams, Chairman
WALKER RIVER PAIUTE TRIBE

Jon D. McMasters, Council Secretary
WALKER RIVER PAIUTE TRIBE

cc. File

BLM LIBRARY
BLDG 50, ST-150A
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, COLORADO 80225

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